



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

*Eng 2618.99*



Harvard College Library

FROM

*W. T. Walsh*

*March 21, 1902.*





Commonwealth of Massachusetts, Supreme Judicial Court.

Hampden, ss.

---

HOLYOKE WATER POWER COMPANY,

PETITIONER,

v.

CITY OF HOLYOKE.

BEFORE

EVERETT C. BUMPUS, JAMES E. COTTER, AND  
EDMUND K. TURNER,

*Commissioners appointed by the Supreme Judicial Court.*

---

APPEARANCES:

*For Petitioner:* FRANK P. GOULDING AND WILLIAM H. BROOKS.

*For Respondent:* NATHAN MATTHEWS, JR., ADDISON L. GREEN, AND  
NATHAN P. AVERY.

VOL. VII.

Nov. 12 to Nov. 20, 1900.

BOSTON:

GEO. H. ELLIS, PRINTER, 272 CONGRESS STREET.

1900.

~~VI 10994~~

Eng 2618.77

18821 1

W. J. Walsh

STENOGRAPHIC REPORT

BY

FRANK H. BURT, WM. L. HASKEL, AND E. L. DAVIS.

## CONTENTS OF VOL. VII.

### THIRTY-FIRST HEARING.

Boston, Monday, Nov. 12, 1900.

	PAGE
OPENING DISCUSSION . . . . .	I
OPENING STATEMENT ON BEHALF OF THE CITY OF HOLYOKE (A. L. Green) . . . . .	7

### THIRTY-SECOND HEARING.

Boston, Tuesday, Nov. 13, 1900.

OPENING STATEMENT ON BEHALF OF THE CITY OF HOLYOKE (A. L. Green) ( <i>resumed</i> ) . . . . .	38
<i>Testimony of</i> . . . . .	<i>Direct.</i>
FREDERICK J. DAVIS . . . . .	42
SCHEDULE OF FAIR MARKET VALUE OF GAS PLANT OF HOLYOKE WATER POWER COMPANY (F. J. Davis) . . . . .	47
SPECIFICATIONS OF PROPOSED COAL GAS PLANT FOR THE CITY OF HOLYOKE . . . . .	86
DISCUSSION ON ADMISSIBILITY OF EVIDENCE OF COST OF A NEW PLANT, . . . . .	117

### THIRTY-THIRD HEARING.

Boston, Wednesday, Nov. 14, 1900.

DISCUSSION ON ADMISSIBILITY OF EVIDENCE OF COST OF A NEW PLANT ( <i>concluded</i> ) . . . . .	130
BRIEF UPON QUESTION OF ADMISSIBILITY OF EVIDENCE OF COST OF A NEW PLANT (N. Matthews, Jr.) . . . . .	172
<i>Testimony of</i> . . . . .	<i>Direct. Cross.</i>
FREDERICK J. DAVIS ( <i>resumed</i> ) . . . . .	183 184

### THIRTY-FOURTH HEARING.

Boston, Thursday, Nov. 15, 1900.

<i>Testimony of</i> . . . . .	<i>Cross.</i>
FREDERICK J. DAVIS ( <i>resumed</i> ) . . . . .	231

**THIRTY-FIFTH HEARING.**

Boston, Friday, Nov. 16, 1900.

<i>Testimony of</i>	<i>Cross.</i>	<i>Re-direct.</i>
FREDERICK J. DAVIS ( <i>resumed</i> ) . . . . .	309	366

**THIRTY-SIXTH HEARING.**

Boston, Tuesday, Nov. 20, 1900.

<i>Testimony of</i>	<i>Re-direct.</i>	<i>Re-cross.</i>
FREDERICK J. DAVIS ( <i>resumed</i> ) . . . . .	381	390
	413	

**EXHIBITS.**

EXHIBIT	PAGE
86. SCHEDULE OF GAS PLANT, FREDERICK J. DAVIS . . . . .	47
87-104. PLANS OF PROPOSED GAS PLANT, SUBMITTED BY FRED- ERICK J. DAVIS . . . . .	85
105. SPECIFICATIONS OF PROPOSED GAS PLANT, SUBMITTED BY FRED- ERICK J. DAVIS . . . . .	86
106. BOOK OF FREDERICK J. DAVIS RELATING TO "NEW WORK" . .	412
107. BOOK OF FREDERICK J. DAVIS RELATING TO "OLD WORK" . .	412



## THIRTY-FIRST HEARING.

---

BOSTON, Monday, Nov. 12, 1900.

The Commission met at the Court House at 2 P.M.

Mr. MATTHEWS. Mr. Chairman, before Mr. Green opens the case for the City, I should like to call the attention of the Commissioners and counsel for the Company to some matters which seem to be left by the evidence, as they have put it in, in considerable doubt. We think that we are entitled to information upon these points before proceeding with our case. By that I do not mean that the proceedings should now stop until the information is furnished, but that, at some convenient season before all the evidence for the City is in, a definite response should be made by the Company upon these points. I have written them out and have a copy for the Commissioners.

Before proceeding with the case for the Respondent, counsel for the City request the Company to define its position upon the following points:—

1. Does the Company consent that the Commissioners may include property in the transfer and valuation not specifically described in the schedule filed January 8, 1898, especially in the following particulars:—

(a) Additional land in connection with the electric light station.

(b) The fee in the land occupied by the tail-race.

2. Does the Company consent that the Commissioners may vary the terms of the lease of water power offered by the Company in its schedule of January 8, 1898, especially in the following particulars:—

(a) In respect to the annual rent or charge for water.

(b) As to those days or portions of the year on which the water power will be shut off and the plant have to be run by steam.

(c) In respect to having water power to operate the electric light station as now used by the Company; namely, whenever there is water in the canal, or throughout the year, including Sundays and holidays, with the exception of four or five days when the canal is empty.

(d) In respect to the use of water for condensing, free of charge.

(e) In respect to other conditions generally.

3. What signification, if any, does the Company attach to the difference in phraseology between so much of its offer as relates to the gas and electric light plants and so much of its offer as relates to the rent of water power, these expressions being respectively as follows: "The Company elects to sell . . . the whole of its gas plant, also the whole of the electric light plant," etc., and "The Company also offers and desires to sell by lease . . . one-half of 1 M.P. . . . also 16 non-permanent 24-hour M.P.," etc.

The first point is this:—

"Does the Company consent that the Commissioners may include property in the transfer and valuation not specifically described in the schedule filed January 8, 1898?"

We have special reference to the following points: Whether the Commissioners can include additional land for the electric light station beyond the plot which is described by metes and bounds in the Company's schedule; and, secondly, whether the Commissioners can include the fee in the tail-race; that is, the fee of the land through which the tail-race runs. The Company offers us an easement, simply.

"2. Does the Company consent that the Commissioners may vary the terms of the lease of water power offered by the Company in its schedule of January 8, 1898, particularly in the following respects":—

First, in respect to the annual rent or charge for water.

Second, as to the days or portions of the year on which the water power will be shut off, which will necessitate the operation of the plant by steam.

Third, can the Commissioners vary the terms of the lease so that the City, if it is obliged to buy this electric plant and hire this water power, shall have the opportunity to use it throughout the year, including Sundays and holidays, with the exception of the four or five days in the year, which, Mr. Winchester said, was all the time during which the water power was shut off as the plant is actually managed?

In the fourth place, we should like to know whether the Company consents that the Commissioners may prescribe terms and conditions for the use of water at the electric light station for condensing purposes.

In the fifth place, with respect to the other conditions generally of the proposed lease.

Those are the points to which we desire to direct the attention of the Commissioners at the present time before opening our case.

Mr. BROOKS. What is your third proposition?

Mr. MATTHEWS. I am coming to that in a moment.

Mr. BROOKS. Oh, excuse me.

Mr. MATTHEWS. I was saying that the first two propositions, the first two points which I have mentioned, are those upon which we particularly desire light. It is a question, it seems to us, of very considerable doubt, whether the Commissioners have the legal power to vary the terms of the offer that the Company has made without its consent. And yet it may well, and necessarily will, we think, be the conclusion of the Commissioners in this case, that, unless those terms are in many particulars varied, the property as a whole, particularly the electric light station and plant, is wholly unsuitable for the purposes of its use.

Now, if the Commissioners have the legal power to vary the terms offered by the Company, that is one thing. The question, however, seems to us to be extremely doubtful; and, if they have not that power, it is plain that those terms cannot be varied and the plant thus made suitable for the purposes of its use without the consent of the Holyoke Water Power Company. We, therefore, ask them whether they do consent that the Commissioners shall, or may, in their discretion, vary the terms of the offer in the particulars named. And we suggest that we ought to be furnished with an answer to these questions at some convenient season before our testimony is in, so that we may have an opportunity to have the plant valued upon the changed terms.

We would also like to call attention to a difference in phraseology in the Company's offer, which may have no significance whatever and which may, on the other hand, have been drawn by intent. The Commissioners will —

Mr. GOULDING. Can you refer to the page?

Mr. GREEN. I have it right here.

Mr. MATTHEWS. It is on pages 30 and 31 of Volume I. The Commissioners will find the Company's offer, and they will note

that the language used in regard to the gas plant and electric plant as a whole is the language of the statute; namely, "The Company elects to sell"—I am leaving out the words which are immaterial from the standpoint of this question—"the Company elects to sell . . . the whole of its gas plant, also the whole of the electric light plant," etc. But when the Company comes to suggest a lease of water power it uses different language: "The . . . Company also offers and desires to sell by lease . . . one-half ( $\frac{1}{2}$ ) of one (1) mill power."

We do not know whether there is any significance to be attached to that difference in phraseology or not. We thought we would call the attention of counsel for the Company to it, so that, if there is nothing in it, they can remove our doubts.

Mr. BROOKS. Why didn't you submit this to us sooner?

Mr. MATTHEWS. We think that the questions have been raised repeatedly. All these questions have been raised in the discussion while the evidence for the Company was going in. I do not mean the last one, as to the difference in phraseology; but everything else has been suggested over and over again in the discussions between counsel during the cross-examination of the Company's witnesses. The main question has been propounded by me upon several occasions, at least; namely, whether the Company assents to the theory that the Commissioners can vary the terms of the Company's offer. We think, however, that it may become of considerable importance to both parties to this case that a definite position should be taken upon that matter before the evidence is closed. As I said, we do not ask any off-hand reply to these questions. It will take probably a week or more to put our case in, and any time before we close our case will be sufficient for us to have a reply to these questions; so that if the Company assents to the proposition that the Commissioners may vary the terms of the lease of water power, for instance, we can meet the case thus changed by the evidence of our experts.

Mr. BROOKS. I would like to make one suggestion. There was an opening made in this case, or a partial opening, that I do not find printed in the sixth volume or any other volume of the report.

The CHAIRMAN. Give Brother Green a fair chance.

Mr. BROOKS. That is all right. I want to give it to him, and I want to be fair. But why shouldn't that opening, inasmuch as it is part of the proceedings, appear in the printed record of the case ?

Mr. GREEN. I should like to say to Brother Brooks that if he desires to have that much of the opening go in, and would insist upon it, of course I presume it would have to go. I had anticipated, nearly a year having elapsed between the time that I started in in Springfield, that I might open the case at the present time as though nothing had been said, anew, and not attempt to pick up the thread after a year and proceed. It is somewhat embarrassing after so long a space of time. The stenographer gave me the opening to correct, and I have that opening ; and if it is desired, and my brother thinks it should go in, and the Commission believe so, why, it is for him.

Mr. BROOKS. I would like to know on what authority any part of this case is excluded from the printed record.

Mr. GREEN. It is not excluded. The intention was to have the next volume begin with the opening, and therefore nothing was printed except the close of our friends' case. It was intended to have the next volume open with our case, the same as the first volume opening with my brother's case, that is all. There is no attempt to keep out or hold back anything.

Mr. BROOKS. Oh, no, I did not suggest that.

Mr. GREEN. I had expected that I might disregard what had been said, possibly under some stress of feeling that I had at the time, at the previous hearing, and if the other side does not object I should like to proceed in that way.

Mr. BROOKS. If there has been any judicial determination as to whether it should be excluded, then, of course, I take a back seat.

Mr. GREEN. No. There has been no judicial determination. I told the Chairman that I should ask the permission of our friends and of the Commission to do this.

Mr. GOULDING. We think we have a vested interest in the opening that was partially made in Springfield, but I do not think that either my brother Brooks or myself want to em-

barrass counsel at all. We would be very glad if he would open to-day on an entirely different principle from what he opened it to begin with.

Mr. BROOKS. It is now a divested interest.

Mr. GREEN. I do not know how seriously my brothers allude to this —

Mr. GOULDING. I do not allude to it seriously at all, except it might possibly be important for us to have the opening. But upon the point that my brother should go on now and open it to suit himself — I am entirely willing he should, and I presume my brother Brooks is, and that he should not be at all embarrassed by the opening made already.

The CHAIRMAN. I should go ahead and open, Mr. Green ; and if counsel desire the other put in, why, have it put in.

Mr. GREEN. I will do so.

## OPENING STATEMENT ON BEHALF OF THE CITY OF HOLYOKE.

BY A. L. GREEN, ESQ.

If your Honors please, this is an action brought by the Holyoke Water Power Company to compel the City of Holyoke to purchase their electric and gas plants. The City of Holyoke having voted to light its streets and public buildings by electricity, the Water Power Company has elected, under the statute, that we shall take these plants. We do not want these plants. We are not here seeking to obtain them, but we are here to meet that request, in order that the valuation which shall be put upon them by this Commission may, from our standpoint, as far as possible, be a fair one to the city.

It is so long since we were dealing with this case that I shall take the liberty of reading that portion of the law which I consider applicable to the questions now to be decided by the Court. That much of the law necessary for the proper understanding of the case is found in Sections 1, 12, 13, and 15, of Chapter 370 of the Acts of 1891, and Section 5 of Chapter 454 of the Acts of 1893.

**SECTION 1.** Any city or town may, under the limitations of this act, construct, purchase, lease or establish, and maintain within its limits one or more plants for the manufacture or distribution of gas or electricity for furnishing light for municipal use, and for the use of such of its inhabitants as may require and pay for the same as herein provided. Such plants may include suitable land, structures, easements, water privileges, stations, gasometers, boilers, engines, dynamos, tools, machinery, pipes, conduits, poles, conductors, burners, lamps, and other apparatus and appliances for making, generating, distributing and using gas or electricity for lighting purposes.

**SECTION 13.** [The commissioners] . . . shall thereafter adjudicate what property, real or personal, including rights and easements, shall be sold by the one and purchased by the other, in accordance with the provisions of this act, and what

the price, time, and other conditions of the sale and delivery thereof shall be. Such commissioners shall file their award in the supreme judicial court for revision or confirmation by said court.

SECTION 15. Whenever the existing gas plant or electric plant of any person or corporation shall have been acquired by any city or town pursuant to the provisions of this act, the powers and rights of such person or corporation in relation to the manufacture and distribution of gas or electricity within the limits of such city or town shall, from and after the date of such acquirement, cease and determine.

I will now read from the Acts of 1893, Chapter 454, Section 5, and I strike out the words which I consider immaterial to our facts to-day.

SECTION 5. . . . Such city . . . shall . . . purchase . . . before establishing a public plant, such portion of his, their, or its gas or electric plant and property suitable and used for such business in connection therewith, as lies within the limits of such city or town . . . and the price to be paid therefor shall be its fair market value for the purposes of its use; no portion of such plant to be estimated, however, at less than its fair market value for any other purpose. . . . Such value shall be estimated without enhancement on account of future earning capacity, or good will, or of exclusive privileges derived from rights in the public streets. . . . No city . . . shall be obliged to buy . . . any property except such as shall be suitable for the ordinary business of the vendor which the city or town may assume; and if any property or plant which the city or town shall be entitled or obliged to buy under this act will not be available to the city or town if purchased, by reason of liens, interests of third parties, private contracts or other cause, whereby the city or town purchasing would be at a disadvantage in the use of the same as compared with the vendor, the city or town may be released from buying the same, or a discount may be made from the price to be paid for the plant, as the commissioner or commissioners provided for in Section 13 shall determine to be equitable under the circumstances.

It is apparent that these sections make three provisions. First, they determine what can be bought and what can be sold, through this Commission, under the act. Second, they give the Commissioners power to make the sale, determine its



conditions, settle the price and the time. Third, they contain rules intended to guide the Commission, limiting the Commission, in the method of finding the value. Incidentally, there is a fourth provision of some importance, providing that the Company, upon this purchase, surrenders, in substance, its franchises, and elects to go out of business.

So far as the first division is concerned, the Company had made its election, and we have contained in their schedule what they offer to sell. It is of some importance, gentlemen of this Commission, that you consider what they have offered us. It would be an injustice to the City of Holyoke for you to assume that, in taking any portion of the plant or property that you may assign to us, we should have rights or privileges not contained within the terms of their offer or within the terms of their proposed lease. That means this: Witnesses for the Company have assumed at various times that the City, if it takes the water plant or the electric plant, for instance, could operate it as the Company has operated it; that they could have water power in substantially the same way that holders of non-permanent power in the city of Holyoke have received it. I am not reflecting at all upon the Water Power Company when I say this: it would be unjust to the City of Holyoke to assume, after this litigation is over, that the Water Power Company will be passing us out any free gifts, or that we shall receive from them, after this sale has been made through this Commission, anything beyond the contents of the bill of sale, as I may call it, which this Commission shall execute.

This is not permanent power. As an illustration, we are, by the terms of this lease, subrogated to all other holders of power, permanent or non-permanent, as well as the fifty per cent surplus and the power reserved by the Company for itself, and the power reserved for the people on the lower-level canals, whenever it is needed, under the terms of the lease. That is all we have a right to. And therefore, as the case now stands, we expect and we have no doubt that the Commission will value it exactly as it is offered.

In dealing with the question of the number of days that we can run our electric light plant by water, we shall ask your

Honors not to assume that we can run, as the Company has run, in accordance with the schedules furnished by many of the Company's witnesses, if not all, but that we shall have to run on the days that we have a right to run under the terms of that lease, if anybody has power to foresee what those days will be.

Their schedule, which shows what they have to sell to us and out of which you are to select the property that we are to receive, is limited to land and buildings and to apparatus. They had no right to offer us, and do not offer us, any franchises or good will, their rights in the public street, or any of the incorporeal possessions of the Company. It is the physical features which are offered us, and which the Commission are to value.

Before I proceed further I desire to call the attention of the Commission to the language of this statute in one particular. Is there any difference here in the use of the words "plant" and "property"? I call your attention to the way the words are used here, because some contention might be made that there was a distinction between the plant and the property. Your Honors will notice that in Section 1, the provision is that the city or town may "purchase, lease, or establish, and maintain . . . one or more plants." The word "property" is not used. It provides further: "Such plants may include suitable land, structures, . . . [apparatus], machinery," and all else.

In Section 13 the provisions are that the Commissioners "shall thereafter adjudicate what property, real or personal, . . . shall be sold." The word "property" is used there in exactly the same sense that "plant" is used in Section 1.

When we come to Section 15 the word "plant" is again used in its general sense, including property, applying to all the physical features used in the manufacture and distribution of either gas or electricity. So that we contend that the words are used interchangeably, that they are used with the same effect,—plant and property. "Plant" in one case is property, and "property" in the other case is plant.

Now the rules which we consider important, and which are important, of course, for the determination of this value, are

found in Section 5 of the Act of 1893, Chapter 454. The property which you select for us must be suitable for the purpose of its use. That is the first provision which is laid down. In the second it is provided in terms that the City is not to buy any property except such as is "suitable for the ordinary business of the vendor which the City . . . may assume,"—in this case, both gas and electricity. The third, the City is not to buy any property not available from any cause whereby the City is at a disadvantage in its use, as compared with the vendor. It is true that there is a further provision that, for any property that is valued, so far as it is valued, the Company is to receive its fair market value for any other purpose. But I think that is easily to be reconciled with the directory clauses which have been read.

Now, what does this statute mean by "the fair market value" of this plant or property? The only difficulty which arises, in my mind, comes from the fact that, in no case, so far as I am aware, the simple plant of a going concern has been sold by itself. It is one of these cases where we have to assume a condition of affairs, and then, by applying our reason, attempt the best we can to get at the value under the language of the statutes. There are two definitions of "market value" or "fair market value" which seem to me pertinent, which I desire to read to the Court before stating our position. The first is found in *Murray v. Stanton*, 99 Mass. 348:—

"A market value, as signifying a price established by public sales, or sales in the way of ordinary business, . . . is not necessary to the assessment of damages, or the appraisal of property that is the subject of a judicial valuation. Property is often the subject of such legal valuation, for which no proof of value in the market could be given, because it is not brought into the course of trade, and is not known in the market, and therefore is incapable of any estimate in that mode. In such case the real value is to be ascertained from such elements as are attainable."

The second selection is from the language of the Superior Court, approved by the Supreme Court, in the case of *Lawrence v. Boston*, 119 Mass. 126, 128:—

“‘Market value’ means the fair value of the property, as between one who wants to purchase and one who wants to sell any article, not what could be obtained for it under peculiar circumstances, when a greater than its fair price could be obtained; not its speculative value, not a value obtained from the necessities of another. Nor, on the other hand, is it to be limited to that price which the property would bring when forced off at auction, under the hammer. It is what it would bring at a fair public sale, when one party wanted to sell and the other to buy. The fact, therefore, that one of these lessees did not want to move, wanted to stay there, would have paid a very large sum to stay there, is not a test of market value, because it is not a case of one who wants to sell and one who wants to buy. If he had wanted to go out, the question is, what would his lease have brought? Not what it would have been worth to him if he had wanted to stay there, because it may have been of greater value or of less value to him than its value upon the market. That simply determines its value to him, not its market value.”

It seems to us, then, that we must get our minds into the condition of a willing buyer and a willing seller. We are a very unwilling buyer; but for the purposes of this case, we will assume that we are armed with franchises, we are going into the business, and we want a plant to do business with. Our brothers would have us believe that they are a very unwilling seller; but we will assume that they stand ready, under the section I have previously read, to abandon their business, drop their franchises, and they have a plant that they want to sell. Now we are not going to pay anything to get rid of competition. We are not buying their business; but the simple question is, What is that plant worth as an aggregated machine, as I might call it,—the land, the buildings and the apparatus united and doing business,—what is that worth to anybody? What could anybody be fairly expected to pay for it for the purposes of its use,—that is, the gas plant, for the purpose of making and distributing gas?

Your Honors will apply to that your common business judgment. Suppose, putting ourselves in just this position, what would be the mental operations of a buyer? Supposing this was not a city, supposing it was an individual or a combination

of individuals armed with franchises, who wanted a plant, what would be the first thing they would do? The Holyoke Water Power Company has a plant, and they are ready to abandon their franchises and go out of business, and they want to sell it. Why, our contention is that if this Commission were in the position of a purchaser, you would first say, "Well, now, before we buy a plant, what will it cost us to build one? What ought we to have up here? What kind of a plant is demanded by the needs of the city of Holyoke?" I will discuss the gas plant as an illustration. What I say of one is applicable for the moment to the other. You would say, "How large a plant ought we to have? How large a generating capacity, purifying plant, condensing plant, how large holders? What would be good practice for us to have up there?" And then if you were not gas engineers, you would consult a gas engineer or the builders of gas properties, and you would satisfy yourselves as to what you could build such a plant as that for.

Now, our first contention is that under no possibility, putting ourselves in Holyoke in January, 1898, could this plant be worth more than what you could build a new plant of equal, not to say much greater, capacity and better efficiency, for. After you had satisfied yourselves of that, you would be in a position to talk to the prospective seller. You would examine his plant. You would ascertain as nearly as possible the capacity of that plant and the efficiency of that plant. You would consider the age of the buildings, the condition of the buildings; you would consider this: "If we buy that plant, what have we got to do to it? What ought we to do to it, now or in the immediate future, to bring it up to the capacity and efficiency that it ought to have?" And whatever sum that was, you would take into consideration. Then you would say, "After we have spent that money on it, after we have paid out this much money, and brought it as nearly as possible up to the capacity and efficiency of such a plant as we would build, then what are the relative differences? It is older; it is depreciated; some of the parts will have to be replaced in the near future." And you would consider that, and how much ought to be allowed for depreciations, we might say, on account of

the age and use of it, as apart from the depreciation, you might call it, for lack of capacity, for lack of efficiency. And then, having stated the proposition from those two standpoints, you would compare the capacity of one with the capacity of the other, consider the memorandum of changes which you think you would have to make, and the additions you would have to make, consider the depreciation on account of age and use; and, having studied all those propositions, you would arrive at a figure which would represent in your mind the price that you could afford to pay for that plant rather than to build a plant in the first instance.

Now, having considered the various propositions against that plant, you would consider what there was in its favor. It is true, you would say, that if we take this plant rather than build one, we can go right on,—go right on to-morrow to make gas and distribute it. It is in the ground and it is going. And you would make some allowance for the benefit of those conditions.

Now, unless earnings can be taken into consideration, I claim that the resulting figure that you get right there is the fair market value of the plant and property. I am speaking of the gas plant now, because there are other considerations that come into the study of the electric plant, combined with the water power.

Now, can earnings be taken into consideration as an element or as evidence of value, and, if so, for what purpose? It is not my intention at this moment to argue upon the evidence of our friends; that is reserved until later. I am simply pointing out our line of thought here, leading up to the evidence we are about to offer. We do say, however, to speak briefly, that to take this huge machine and then to capitalize the earnings on it to find the value of the physical features, the only thing offered here, is a good deal like estimating the profits that could be made out of a buzz planer during the year. You could have a buzz planer and you can hire a man for \$1.75 a day, and you can plane so many thousand feet of lumber, and you can make so many thousand dollars a year; therefore the planer is worth \$50,000 or \$100,000; yet you can go and buy a

new one for \$500, a good one. We say that you cannot get at the value in that way. But there are two things to consider: first, can you consider the earnings for the purpose of indicating whether or not this plant is being put to its best use? Secondly, can you take the earnings into consideration for any purpose to enhance the value of this property? We claim that it does not aid an expert in arriving at the value of that property for the purposes of its use to know how much money that plant is making, unless that money is an element of value.

I do not know as this is of any great importance, but it is a suggestion. It might aid a person at a distance, in determining in the abstract some questions about this plant, to know how much money some people had made in operating it. But that the value in the estimation of an engineer familiar with the gas business, who has been to Holyoke and has examined the plant, and knows its size, knows the age of the parts, has seen the city, knows the kind of a plant the city ought to have, knows how much gas is selling for, knows the scale of wages, and knows all the facts which enter into the operation of that plant, save that, having disclosed to him the mysterious fact that the plant has made \$20,000 or \$30,000, immediately jumps from \$300,000 to anywhere short of a million,—the claim is illogical and absurd. We say that the expert knows more about that plant, when he has studied the situation, than the mere fact that it has made so much money. He knows what it ought to make. So that, if the evidence of the amount of money made is to be admitted, we claim that it has very slight effect indeed upon the value of the property. This statute assumes that we are in the market to do business, and that we want a plant; it assumes that the Company has got a plant to sell, and therefore what we are after is a plant for the purposes of its use; namely, to make and distribute gas.

But it might be—we are not prepared to admit it—it might be that we could say that a piece of land with certain buildings upon it, which was susceptible of operation so as to make a substantial amount of profit, is being put to the best possible use to which it can be put, and therefore when we estimate

its value as a gas plant we are getting at the highest value that ought to be given to the property.

There is a fallacy in that reasoning from earnings which is very fundamental, which I hope to discuss more fully in a moment, and that is this: You assume conditions, the existence of which for a year no human being can foretell in Massachusetts. It all depends on the price of gas, which is \$1.34 in Holyoke. Well, gas is down in Springfield to a dollar and five cents, and that is eight miles away. Nobody has taken into consideration the laws of Massachusetts that distinguish the operation of plants. We assume \$1.34 gas, and I think it stands to reason that we have \$1.34 gas by virtue of the fact that this case is proceeding, and therefore it is not considered worth while for the Gas Commissioners to deal with the price of gas. It is fair to argue that any price which is dependent upon the action of an outside commission, an outside body, is rather an unsafe thing to take in forming the estimate of value.

But the statute says that earnings are not to be taken into consideration; that we shall not take future earnings into consideration. What is the difference between future earnings and present or past earnings? Present earnings are of no importance, past earnings are of no importance, unless they are to continue. It all resolves itself into future earnings. Nobody would care anything about present or past earnings unless it can be assumed that they will continue.

If earnings are to be taken into consideration, if they have any value as bearing upon the price that this Commission is to fix for the gas plant, for instance, I maintain this application is limited. I maintain, your Honors will understand, first of all, that the statute precludes them; but if in any way they add to the value of this plant, there, going, making and distributing gas, it is simply to this extent, that a purchaser might say: "While I am building my new plant, if I buy this plant I can proceed and make money. Instead of waiting during the period of construction of a new plant, I can be making some profits at once by buying the old plant." Well, if that is so, it is simply the profits that he could make while



his plant was being built ; it is limited to the profits during the period of construction. That assumption is clearly this : He will have to say to himself, "If I can assume that this plant is and has been making \$30,000 a year" — to use our friend's figures — "and if I can assume that the Gas Commission will not meddle with my price, and if I can assume that I will make as much money as that during the succeeding year, then I can afford to pay the profits during the period of construction" ; because your Honors will understand we admit that, apart from the question of earnings, additional value may be given to this plant by the fact that the mains are down, that the purchaser can go right on with his business. But if profits add anything in a consideration of this case, and if all these matters can be assumed under this statute, then we say that, so far as earnings can be used to enhance the value of this plant, they simply add to it the profits during the period of construction.

There is another consideration we submit to this Court. Having studied these two plants ; having determined what you could build a plant for in Holyoke, and what would be its capacity and efficiency ; having considered how much this plant had deteriorated because of age and use ; having considered how much money it would take to bring the present plant up in capacity equal to such a plant as any one would or ought to build, looking to the future needs of the city ; considering the period of time, January, 1898, which we have assumed so far in this case ; then consider what it would cost to operate these two plants, — whether one is more expensive to operate than the other. One way of testing the value of the plant would be to say, What does it cost to run that plant and to make gas, for instance ? What does gas cost in the holder ? Is it costing too much ? If so, is that the fault of the plant ? He would consider the mains, the size, the conditions, the leakage. In other words, he would compare the efficiency in the cost of operating the two plants. We say that in the valuation, then, which has been introduced by our brothers under the term of "structural value," the reproductive cost of the present plant is one of the smallest of the considerations which

would enter into the mind of a prospective buyer as a practical proposition.

Now, if your Honors please, to make a final statement of our understanding of the law, and perhaps repeating what I have already said, passing to the respective plants under consideration, we put our case in this way: The City has franchises, and desires a plant, we assume. The Company has elected to abandon its franchises, and has a plant to sell, we assume. This brings us to the condition of a willing buyer and a willing seller. Now, what could a purchaser afford to pay for the plant rather than to build, considering its advantages on the one hand and its disadvantages on the other? Applying our line of reasoning, we pass to the gas plant, and ask your Honors to consider the evidence as we outline it. Your Honors recall the age of the present plant. It started some time about 1850, or prior to 1850, — I forget the exact time. There are three holders, two of them on the lot and one of them down on Bridge Street, — number 1, number 2, and number 3 holders. One of the holders was built in 1850 or thereabouts; the second holder was built in 1873, and the Bridge Street holder in 1884. The holder capacity is rated at 325,000 cubic feet, and has a practical holding capacity — that is, a holding capacity to be used — of about 300,000 feet, according to Mr. Snow. You will recall that the benches were put in in 1892; that the retort house was built in 1880; that the water gas plant was quite recently installed, in 1896, some two years before the period we deal with; that the purifying, meter and lime rooms were put in — all we know about it is — prior to 1875. The coal shed, which is a wooden structure, was put in in 1880. The mains have been put in as called for since the beginning of the plant. I speak of these dates to call the attention of the Commission to the fact that the plant has been added to from time to time; that they have tried to increase it, have added to it, as necessity demanded. You have in this plant a generating capacity of a million, speaking in round numbers, — rather more than a million. You have a purifying capacity of five hundred thousand and a holder capacity of three hundred thousand. You have three holders, and one of them is down in Bridge Street, — put

there, as we claim, obviously to help out the system of mains. If you built a new plant in Holyoke and put in new mains, and had everything adapted to the present size of Holyoke, we expect to satisfy the Commission that there would not be a separate holder on different land away from the works. The purpose of the holders is to hold gas. We have got three of them here now, and we claim that in the immediate future another must be built; and we claim that, owing to the necessities of the case, the new holder must be built off the works; and that the purchaser who wants a plant is confronted with the proposition that if he takes this plant he must have four holders, and he will have to have two of them away from the works.

Now, as a common-sense proposition, would not a prospective buyer, who wanted a plant, compare these four holders with what he could install sufficient holders for, of a sufficient capacity, if he built? Would he ever dream of getting at the value of these holders, for the purposes of their use, by finding out what it would cost to build just such holders as these are? He would consider it a detriment if he was obliged to have holders away from the works.

I suspect that I have taken up the parts of the plant out of their order, for I suspect that the purchaser would look at the mains, first of all. He would find thirty-two miles of mains in Holyoke. He would find that there are a very large and undue proportion of small-sized mains, mains of four inches and under, and a large number of mains three inches and under. He would understand, of course, that this condition grew out of the exigencies of the situation. They started when the place was small, and they patched on as it was necessary. Would any purchaser who did not deserve to have a conservator appointed over his property ever dream of valuing those mains by estimating what it would cost to lay them as they are now? He would say, No, what I need now for a system of mains are pipes of such and such a size.

He would consider the leakage in this case, because the leakage adds to the cost of gas. Your Honors will perceive that Mr. Humphreys, who has made an analysis for our friends

of the amount it costs the Holyoke Water Power Company to manufacture gas, in his evidence charges up the leakage to the manufacture of gas. This is simply as an illustration. He says that if you multiply the leakage amount by the cost of manufacturing, and then divide it by the amount sold, you get at the amount that the leakage is costing, because there is gas going to waste. Well, now, he would discover that in this system of mains the leakage account—I am speaking off-hand, out of memory—is some eleven or twelve per cent.

Now his estimate would be, borne out by experience and also borne out by a comparison with other companies in Massachusetts of similar size, that that leakage account was too large by quite a number of cents per thousand feet sold. The fact that a system of mains costs a matter of \$2,000 more a year for leakage than it ought, would be a substantial factor in determining in his mind what they are worth. That is what we mean by the efficiency of a system. We are going to offer for your consideration facts bearing upon that point, upon what those mains are worth, considered practically, upon the work they are doing, and upon the work they ought to do. In the performance of their work they are to be considered as a servant. It is the difference between a servant who does his work well and a servant who spoils part of his work. One is worth more than the other. And when it comes to buying this property, you have a piece of property that is not doing its work well; therefore it is worth less than property which does its work well.

There would be two ways, we are going to submit to you, of getting at this. We shall submit figures to you bearing upon them. You can deal with the leakage from the point of what it is costing, and try to get at a result. You might do simply this: you might find how much it amounts to, capitalized at 4 or 5 per cent. or something like that; and on that basis we are satisfied that the Company might just as well ask us what we would pay and they keep the property. They need not offer it to us at all. You can consider, too, what it would cost you in cash, as near as you can get at it, to put those mains in such shape as they ought to be put in, as far as you

can. In other words, we will have to deal with it as a practical proposition. How much money have you got to spend on this system of mains in order to stop this inordinate expense caused by leakage? And, having considered that proposition, and having spent your money, what have you got? Out of those factors you get at your value.

It is submitted by the other side that the city of Holyoke is a growing city, and that there is a present opportunity for future increase of business; that more gas must be made year by year; that people in Holyoke are not buying as much as they ought; that if the City or some purchaser gets hold of it they will improve, it is assumed, on the business methods of the Holyoke Water Power Company. Assuming for a moment that that is so, then the prospective buyer takes into consideration the question, How long will this plant do its work? We have a purifying plant of a half a million. Has it about reached its maximum? If it has about reached its maximum, and you must add to it, then you have a depreciation there at once, owing to the growth of the business, and you have to consider what must be done with that fact. We submit that is a fact. The purifying plant must be remodelled in the immediate future, must be added to, just as we claim that we must add to the holder capacity of this plant. All these things have got to be done, we claim, and they all affect the value of the gas plant and property of the Holyoke Water Power Company.

Another very important consideration in the treatment of this gas plant is this piece of land on which it is situated. Your Honors have perceived that that is all there is obtainable in the vicinity. When we come to build, when we come to add to the plant, there are no possibilities of enlargement, so far as the tract of land is concerned. If we want another holder, we must go off, as I have said before, and away from this lot, and build elsewhere. When we come to rebuild the purifying plant and the other parts, we must tear down, and in tearing down to do the work we have to do it will be necessary to tear down other work and to rebuild, involving ourselves in considerable expense. These facts would not be of importance in the case unless that necessity existed; but it does, we submit, exist. If

your Honors will compute for a moment the amount of gas that was made in 1897, as shown by the reports and in evidence in this case, the amount of gas that was made in 1898, as shown by the reports and in evidence in this case — take the same percentage of gain and compute it for a few years, and you will find that they must have by this time a maximum output coming pretty close to the half million capacity that the purifying plant is capable of,—very close to it. So that in buying, this is one of the facts to be considered.

And there is the land. Now, "land" means the earth and the buildings that are annexed to it, I take it, in this statute. When you come to consider this land we say that you must consider it for the purposes of its use. What would pass by a deed of the land? You cannot say that the land with the buildings torn down and removed is of a certain value, and the buildings rebuilt somewhere else are of a certain value. If you are going to value the land as a site for a cotton-mill or a silk-mill, then you must give the buildings a dismantlement value; they must be taken where they are and as they are, to quote my brother Brooks's favorite expression, "where they are and as they are."

Mr. BROOKS. A good one.

Mr. GREEN. It is, very good. Anything you say is always good.

Mr. BROOKS. I wish I was certain about that.

Mr. GREEN. Well, you may well be in doubt.

The land, then, we say, in this case, having these buildings upon it, must be valued with the buildings for its use as a gas plant. And you cannot say that the land is good for a cotton-mill or a silk-mill or some other purpose and, therefore, is worth fifty cents a square foot, and that the buildings are good for a gas plant and, therefore, they are to be valued for gas plant purposes, but you must take that property as it is there. And if you deal with one you deal with the other; that is, in dealing with the land and the buildings, which are united.

Now, that land, in our opinion, valued for the purpose of its use, is not worth any more than land equally well situated for

the purpose of its use in the city of Holyoke. So that, out of all these factors, we claim a result is to be reached which shall be the value of the gas plant and property of the Holyoke Water Power Company,—a value which is not \$900,000 or \$600,000 or \$300,000, but a value, we expect to satisfy you, far less than any such value named, far less.

The most important consideration in this case is the electric plant and property. And I say without any hesitation or reservation that unless the terms of this offer are varied, or unless this Commission has power to go outside of the offer in this case and modify the terms on which it is tendered to us, the property offered us, for the purpose of its use (and in the form that it is offered, for any other purpose), is worthless; not simply that it is not worth what they say, or that it may be worth \$100,000; we simply say that it is bankruptcy for the City of Holyoke or for anybody else to take it. It would seem as though the offer had been ingeniously strung together to give us something which we could not use or operate after we had received it.

Now, in order to study this proposition and to study it fairly, we will separate the steam plant from the water plant. We will assume that we are to receive enough land to maintain the buildings of the electric light plant proper,—the dynamo building, the stack, the engine room and the boiler room. Let us see if we can get at a value for that plant.

Now, those buildings are there, beside a canal. We cannot get any water for condensing, for none has been offered us; and this Commission cannot assume that if they cut that water plant off from the electric light plant and assign the electric plant to us as the plant to be purchased, we can reach any pipes out into that canal and take water, even if we put every ounce of it back again. It might be that the Company would let us, but we would not have any right to do it, and it might also be that the Water Power Company would be in that frame of mind that they would tell us not to do it, and they would have a right to do so if they did. The question is, what is that plant worth to be run by steam?

We will consider these two, the water and electric plants,

separately, and then we will consider them together, so as to study them from each point of view.

Now, gentlemen of this Commission, wouldn't you apply the test already suggested if you were in Holyoke with the franchise and wanted a plant to make and distribute electricity? You would consider, first of all,—electricity, you understand, is a changing and progressive science or art,—what you ought to have there, what the needs of Holyoke demand, what the size of the city calls for, and you would either know or you would ascertain to your satisfaction what it would cost to put it in there. You would find, if you looked into it,—and we will satisfy you, we think, on this point,—that it would cost a comparatively small amount of money to install an electric light station in the city of Holyoke to be run by steam. By comparatively, I mean compared with the figures that our brothers have suggested in this case. You would look inside of that dynamo building, and you would see what they have there, and you would find that they have machinery that is no longer made. You would see a long line of shafting and belting, some of it, we claim, designed to be used in furnishing power to our street railway companies. You want an electric light station. You want to generate and distribute electricity right down to the bottom dollar, according to the best and most advanced condition of the business. You would see there four systems, four lines of wires, running out, if I understand the situation aright. Well, now, according to good practice at the present time, you can do all that by one system, and certainly we say that no electrical engineer of standing would install more than two in January, 1898. They would be directly connected. You have no need, whatever, of all that shafting and all the belting; it is just so much money thrown away. Now, as a practical proposition, would any buyer invest in all that machinery, in all the shafting, and in all the belting that there is there, when for a vastly less amount of money, he could build buildings and install a plant as simple and practical as the engineers of the present day build and install? We say no. We say, first of all, that to run by steam, taking the plant where it is, it cannot be worth any



more than it would cost at the present time to build and install such a plant as the city ought to have.

Now, what is it going to cost to remodel this plant? For we expect to satisfy this Court that the condition of affairs there is all wrong. We expect to satisfy the Court that any person, any corporation, any purchaser who took this plant, would strip it and rebuild it. Our friends, we believe, would have done it ere this, if it had not been for this case.

Well, supposing he does it. Then, in that case, the machinery and appliances and things there which have to go out are old junk. And the question arises at once, how much must a person spend to put that electric light station, the dynamo building, into condition, and to put in the dynamos or the machines that ought to be there? That is the first proposition and the simplest. No man, we submit, and our evidence will tend to prove, would ever for a moment dream of valuing that plant by considering what there is there and what it would cost to put it in new. The chief thing to consider in the making of this electricity is the power. Now, if a purchaser runs by steam, he must run non-condensing. Now, I suppose the proposition that any maker of electricity would first consider would be this: Just how much can I get out of a pound of coal? Now if that plant there, run by steam, on account of the fact that you cannot get water for condensing purposes, is going to make the price of electricity too great, why, then we cannot afford to own it. Nobody could afford to own it. In other words, after you have remodelled your plant, can you afford to run it by steam? If you cannot afford to run it by steam at that place, then we say it is not suitable for the purposes of its use on that aspect of the case. One of the members of the Board knows something about power and steam, knows what it means in this case; and I assume that all the Board, after this hearing and other hearings, appreciate our position in this case. If you award us this plant, divorced from the water power, and we take the electric plant alone and we must run there by steam, then we say that the City of Holyoke, if it cannot get water for condensing purposes, had better abandon this plant, charge it up to profit and loss,

and go somewhere where it can get water for condensing purposes.

If that is the situation of affairs, and if this Commission is honestly persuaded that it is, after hearing witnesses who are familiar with the question of power, we shall expect you in this case, to say that we shall not have to take that plant run by steam.

Now, for a moment, pass to the proposition that we run by water, just for purpose of comparison. We contend that no purchaser can afford to buy these two plants to be run by water, if the power is going to cost him more than it would cost him to run by coal somewhere else, because we assume a condition of a free purchaser who is at liberty to pick and choose, just the same as we assume a condition of a free seller. They are both to be willing. Therefore, in considering the question that you have to decide, of determining whether we shall take the water power and the steam plant, then you are to determine whether the power that we get is to cost us more than what it ought to cost. If it does, then it is not suitable for the purposes of its use. There are other considerations which enter into this proposition, but I will deal with them elsewhere. I am dealing now with the one question of suitability for the purposes of its use.

You cannot get at a truer result, I take it, by assigning us these plants and saying, You have them, you have so much money paid for them, you must take them, and, having them, which is the cheaper, to run by steam or by water? In dealing with these plants you have to deal with them from the point of view of a purchaser who was free to act. And that would mean, brought down to its lowest terms, what ought the power to cost him?

Now we are confronted with a curious condition in dealing with this water power. They want us to pay \$72,000 bonus and \$24,000 a year for power; and that is the only term on which they offer it to us in their schedule, when we need for the present demands of the business only about three mill power on an average, taking it right through the year. But they may say to us,—or your Honors may decide,—“Gentlemen, we won’t ask you to

take this plant at any such extortionate price as that ; we have the power and we will let you have water measured on the wheel. We think this will overcome your difficulties." We shall introduce evidence to this Commission tending to show that that is not so. With the terms of offer as they have given it to us, with the restricted days as they are subordinating us to the rights which others possess, we cannot take that electric light station and run it with water power if they give us the power and charge us no bonus for the land, for this reason : They have run this plant, using steam, only about five days out of the year. Sundays they have had water for the half day during which the plant has been operated. Apparently, the restricted days have not applied to them. But in our case we must run by steam a quarter to a third of the year anyway, and nobody knows how many days if they construe this lease strictly against us. If your Honors will take that lease and figure out the quantity of water we may expect to receive, and tell us the result, we shall be happy to know what it is. If they actually subordinate us to the people who would have the first right to the power under the lease, nobody knows how many restricted days there would be, but at least we should have to run a third or a quarter of the year by steam. We expect to show that putting us there, tying us to that water plant and then making us run the steam plant a quarter to a third of the time, would cause such an extravagant cost for power, owing to the fact that we have either to run non-condensing during so long a period of time or to run condensing with such a high price for the water, that it would be better for us, and cheaper,— and that is the real test in this case,— cheaper to run by steam altogether somewhere where we could get water for condensing purposes. So that our contention is twofold : A purchaser cannot afford to run that plant where it is, by steam, without water given him for condensing purposes. He cannot afford to run it with combined water and steam unless he can have water for condensing purposes during the periods when the water is shut off.

There is another factor to be taken into consideration, if your Honors please. This plant, as we have already said, has been run by the Company in an entirely different way

than we can run it under the proposed terms. As they have used it, it has only been necessary to run by steam but a few days; and if we take it, as I have said, we must run a quarter to a third of the year, at least, by steam. We shall ask you to determine whether the boilers and engines which are there are sufficient and proper, if we must run it as we shall be obliged to run it under the terms of our lease; and if they are sufficient, if we can assume that they are sufficient for to-day, how soon will they be too small? How soon will they be too expensive? How soon ought we in good practice to remove them and replace them by others? If that time is now at hand, or if it is immediately at hand, that fact is a cause for depreciation. If this necessity arises from the growth and progress of the business, it is as if it came from use or age. But if that fact arises from the circumstance that we cannot operate this plant in the same way and under the same conditions as the Water Power Company, then it is property that we ought not to take under the terms of the statute.

We start, outside of the question of power, with the proposition, which we believe is almost obvious, that this electric plant must be remodelled, that it must be built over, that it is obsolete and past. Nobody at the present day who is running a station and running it properly would have four systems, as they have there. To-day, under modern practice, — and when I say modern I mean January, 1898, — under such practice as prevailed then, you need a simple station, you need a station very much smaller than this. Why, you could put such a station as ought to be built for a central lighting station right inside of this. For the purposes of its use it is not worth anything more to us than a station of the size and capacity and design that we need. We do not want to buy a Cabot Street mill to hold an electric lighting station. We do not want to buy buildings twice as large as they need to be, and three times as elaborate as they need to be, for this station. It will not serve us any purpose. Its value to us is only a value derived from being used in the making of electricity. It is obvious how they came to build the station. It was built at a time when more machines were used. I think

the Commission is satisfied by this time,—at least we expect to make it plainer if it is not plain enough now,—that it was designed not only for an electric light station but a power station for a street railway company, and was shafted and belted with that in view. But the march of events between the time this was built and January, 1898, has simplified this whole question, and instead of having to multiply machines as was done at that time, the number is now reduced to a matter of one or two machines. So that not only, when a person came to reconstruct this plant, must mechanisms be torn out and replaced, but you have a vast amount of shafting on hand which is unnecessary, you have a large building, much larger than is needed, much larger than can be used, and, estimating on what it cost to build it, the cost exceeds its value to an operator.

There is another consideration which enters into this. I have been discussing value as limited by the uses to which the property is to be put. As I have said, we expect to satisfy the Commission that it is in immediate need of reconstruction; that its value is to be decided with that point in view; that we ought not to take it at all with the power as now offered. This is a practical proposition, gentlemen of this Commission. The City of Holyoke, it is now proposed, is to take this plant. Supposing you put a value on this plant,—and then just as soon as we take it we have to spend upon it an amount equal to your valuation; you may or may not do us a grievous wrong, according to whether you take that fact into consideration. If you do not, our position will be a peculiar one. If you take the method of valuation that our brothers have adopted, and consider what this cost, and assume it is just as good as new, and give it to us on the terms upon which they offer it here, and when the City of Holyoke takes it the terms are so disadvantageous that it cannot afford to operate it where it is, and it can better afford to go away somewhere down by the river and build a plant where it can get water for condensing purposes, the price you put would not be the value of this plant, because the value should be what it is worth to a person to use.

It has been hinted by our friends that they will say: That

may be so, but the law says that no portion of this plant shall be estimated at less than its fair market value for any other purpose; and this water power has a value. There are 16 mill powers, and they must be valued as if used in a paper-mill or cotton-mill or somewhere else. They have offered us 22,000 square feet of land, and they have put 16 mill power on top of it. I do not believe that a person, unless it was under the most visionary circumstances, could ever suggest as a practical proposition a use in the city of Holyoke to which 16 mill power, attached to 22,000 square feet of land, could be put,— if I have the numbe of feet; perhaps it is 25,000. As a matter of fact, 16 mill power in the city of Holyoke generally goes with a plot of 400,000 square feet rather than 22,000. That is all before this Commission. We say that they have offered this to us, your Honors, in such form that if you award to us this plant we can never sell that land and water power, because one is not proportionate to or accommodated to the other. The power is too expensive to operate in connection with an electric light station; and consequently we would be in a pretty mess if it is awarded in the form and under the conditions that our brothers suggest.

We think, so far as the electric light station is concerned, so far as the water power is concerned, that this provision of this statute peculiarly applies:—

“No city shall be obliged to buy any property except such as shall be suitable for the ordinary business of the vendor which the city or town may assume.”

We say that that land and that property is not suitable, on the terms offered, for the ordinary business of the vendor which we are going to assume. But to go further:—

“And if any property or plant which the city or town shall be entitled or obliged to buy under this act will not be available to the city or town if purchased, by reason of liens, interests of third parties, private contracts, or other cause”—

that is, from any cause—

“whereby the city or town purchasing would be at a disadvantage in the use of the same as compared with the vendor,

the city or town may be released from buying the same, or a discount may be made from the price to be paid for the plant."

Mr. GOULDING. How do you translate that "other cause"?

Mr. GREEN. I take it that "other cause" is a limitation of the original clause, "if purchased by reason of."

Mr. GOULDING. If you will pardon me, I would like to ask you if it doesn't mean that the city or town would be at a disadvantage by reason of contracts with somebody, or liens, by which the vendor had authority to use it in some way which was an advantage to him?

Mr. GREEN. I do not think so. I think the clauses that come first do apply to that, but "other cause" is broad and general, and is intended to apply to conditions which cannot be foreseen. I read it, "by reason of . . . other cause." That is, you have various subordinate clauses modifying this first phrase, "by reason of." By reason of liens, by reason of interests of third parties, by reason of private contracts, by reason of other cause. It is broad and general.

Now we say that by reason of causes which exist here we are at a disadvantage in the use of this property as compared with the vendor, and therefore we ought not to be obliged to take it unless a reduction in the price asked would fill up that gap; and inasmuch as our contention is that, on the strict terms on which they have offered this, no allowance will make this good, then we say we ought not to take it.

What are the facts? The Water Power Company provided for this water development before the electric light plant was put in. They have built it with the apparent and obvious purpose of sustaining the walls of a large building, making it of a size and of a cost entirely unnecessary for its purpose in connection with an electric light station. Having the water development there, later, on a large piece of land, a piece in itself of sufficient size to accommodate a mill which would use 16 mill power, in one corner they put their electric light station (and on that same tract they have one or more other buildings), and they shaft it onto this water development. They were not using it for any other purpose. They used it in connection with this plant. There is no reason why they cannot use it in

connection with any other building or plant which they choose to build elsewhere on this lot or at some other place. It is our contention that they do not use 16 mill power at this place; they only use what the immediate needs of the plant call for. But they are in the business of selling water power, and whatever they do not need here they can sell anywhere else they choose to sell it. As the property stands in their possession, they are simply using water which either they do not care to use for any other purpose, or which they have not otherwise sold or disposed of; and if they have any market or any demand for water, then they are in a position to sell here or there or elsewhere, wherever they choose, the water which might be used under this development but which is not in actual use. As the property stands in their possession, this land, if they desire to sell it, and the water power, if they desire to sell it, can be sold as a unit to anybody who desires the piece of land, to build a mill there, using 16 mill powers.

We are obviously, we say, and plainly, at a disadvantage with the Water Power Company in the use of this water. In practice, your Honors remember, all they charged themselves was water measured at the wheel. They used just about three mill power. Now, you see the condition that we are in. The load in the electric light station, you know now, is not a uniform one; it has a peak and goes up and down, at one time of the day using very little power, and then along towards night for a little while using a great deal of power. Now coal is particularly well adapted to such a form of power as that. They have not been in a position where they have been obliged to charge up to themselves what it has cost them, or would cost them, for that water measured at the peak of the load. It has only cost them, and they have only charged themselves, the water, as we say, measured on the wheel—the actual amount of water used.

Now they do not offer us water so measured. They ask us to pay for the water at the peak of the load, and want to have us pay, I don't know what, but \$12,000 or \$24,000, or some sum which is measured by the maximum amount of water which for half an hour during the 24 hours we might want.



We would have to lose all the rest of the time. We say that power such as that, unless cheapened and unless for other reasons alluded to it is available, should not be awarded to us. It would be too expensive and too extravagant. In other words, I will put my proposition in this way: We cannot afford to pay for water power and steam power, when we have to use them both, more than it would cost us to run by steam alone. That is an outside proposition. Put the other way around, we cannot afford to pay for the water power more than the difference between what it would cost to operate a plant of equal efficiency with this by steam all the year, and what it cost to operate this plant by steam during the restricted days. That is, to put it by subtraction, if we estimate first what it would cost to run a plant, what it ought to cost, to run a plant under good practice, of equal efficiency with this, by steam all the year, and then subtract from that what it will cost us to run this plant by steam on the restricted days, we cannot afford to pay any more than the difference between those two for water power, because if we do, it will make the total of our power cost more than it would to run by steam alone.

The peculiarity of this proposition lies here, that to run this plant by steam during the restricted days, on a fair understanding of this lease, will make the power cost us so much, operating it where it is and as it is, and we cannot afford to pay anything for the water power; we cannot afford to operate it there under those conditions.

Of course I have to assume in what I say here to-day that we are dealing with the proposal as the case now stands. Our friends are considering the questions we have submitted, and we do not know what answer they will make. If they would guarantee us water for condensing purposes the proposal would stand on a different basis. But dealing with it just as it now stands, with the proposition that, if we run by steam, that either all the time or a quarter to a third of the year, we must run non-condensing, or else pay an extravagant price for water — under such circumstances we say that the cost of power is excessive and the plants are not available for the purposes of their use.

Value was put upon this plant by many witnesses for the Company, which was variously designated as a value based upon earnings, or the fair market value of the plant and property, taking into consideration the fact that the business netted so much money, which was in fact and reality, as freely admitted by the witnesses, a method of getting at the value of the entire assets of this Company, considering it to be an ordinary sale where the purchaser acquired the franchises and good will and all the assets of the Company. That was obtained by the easy method of capitalizing at some rate which pleased the fancy of the witness.

We shall offer evidence for the purpose of meeting this evidence. We do not consider that you are to value in this plant the franchises or the business. As we have clearly stated on one or more occasions, we do not understand that we are buying a business or paying for a business, buying the franchises or paying for them; and we understand that earnings come from the franchises and business management and other factors just as much as from the plant with which the business is done. Can you get at the value of the business and plant by capitalizing earnings at 4 or 5 per cent.? We shall ask you to take into consideration, on this proposition, our Massachusetts gas laws and the jurisdiction of the Gas Commission and their control over prices. In other words, supposing one of these gentlemen who believe in the theory of capitalizing at greater or less per cent., had paid, as he suggested, \$900,000 for this gas plant and property, the buildings and the land and the machinery,—bought the whole thing,—on the principle that there is there a present opportunity of future increase, what would he do with it? He cannot do in Massachusetts as he might do in New York or Pennsylvania or somewhere else,—issue bonds and stock against it to any amount he pleases. We ask you to consider the laws of this State and the current practice of the Gas Commission known to lawyers and business men. We submit to you that he could only stock and bond his purchase with the consent of the Gas Commission for an amount about equal to the physical properties of the Company. That is the practice. He would get

down to about what they might, in a generous way, consider the physical assets of the plant to be worth. There is where he would be left with his proposition. If he bought this plant in January, 1898, there would be considerable scrutiny exercised over his doings to see how much money he was making. And when the Commission had determined what his capital should be, they would say that he might make, say 6 or 7 per cent. at the present time, under present practice,—some per cent. which seemed to them to be reasonable; and if he made any more per cent. than that, they would scale his price of gas accordingly. And, on the other hand, if he did as some companies have done, kept the dividend rate down,—and all that means is the portion of the profits in Massachusetts which under our laws you can take out, remove, from your plant,—if he had kept it to about what it ought to be and allowed a beautiful surplus to pile up, as our friends suggest, then they would say again, just as they are saying in many instances familiar to this Court in Massachusetts, “Why, look at your surplus; you don’t need so much profit,” and down goes the price of gas again.

Now, we say as a practical proposition, we submit to you that you are to consider our gas laws; you are to consider what a purchaser would have to consider here in Massachusetts. We rather incline to believe that it would be hard to find a purchaser for gas properties in Massachusetts at much beyond the value of the physical features of the plant. Would a person pay \$900,000 for this gas plant, in the face of a law which can fairly, at least, be interpreted as saying that the next day the city can come along and go into the business, and only pay for the physical features of the plant in case he prefers to sell?

Now, we submit that if we are to have a capitalization in this case for the purpose of determining the value of this plant, the only true method will be to capitalize that portion of the earnings which, for one reason or another, it is fair to assume that the owner can take out and away from the plant for himself. There is a fallacy in taking the earnings of 1897, based upon \$1.34 gas, and then capitalizing them at 4 or 5 per

cent. to get at the value even of the entire plant and business. The fallacy lies in the assumption that the price is to continue, while the one fact that the purchaser would have to take into consideration would be the probability of that price continuing. Our position would be that in this State, in addition to all the other propositions which must be taken into consideration, the purchaser, if capitalizing, must capitalize not only the true divisible profits, but he must capitalize what he can fairly assume will be allowed him as divisible profits, or, to put it in another way, what he will be permitted to take out of that plant, considering that this is a public service corporation.

On the first proposition we claim that, apart from the fact that this is a Massachusetts corporation, and considered entirely in the abstract, for reasons that we have sufficiently stated heretofore, they have not included in the expenses to be charged up to the operation of this plant, items which properly belong there; that the only things that can be capitalized on any basis are the divisible profits; that is, the amount of money that it is safe to take out of the plant. Put it whatever way you please, it would represent the amount of money it would be safe, whether it is done or not, to pay out in dividends. That is another way of simply saying this, that you must not capitalize only the resultant obtained after charging, in addition to the other items charged, the cost of insurance of various kinds, of legal expenses, the liability insurance that we have mentioned, and a proper amount for depreciation; that those are all proper elements to be charged before you can get at a resultant figure to be capitalized on any basis. In some other State that would probably give you the amount which you could capitalize, using a proper rate. But here in Massachusetts you must consider, not what you happen to be at some one year or another making, but what you can fairly assume that you will be permitted to make if you buy this plant.

Mr. GOULDING. How long does the Commission propose to sit?

The CHAIRMAN. I suppose we had better sit until Mr. Green finishes, unless there is some special reason for stopping. Have you any idea how long you will be?

Mr. GREEN. Not very much longer.

The CHAIRMAN. Perhaps you would like to wait till morning yourself?

Mr. GREEN. I think I would. I will only be a short time in the morning, but I think I would prefer to finish in the morning.

Adjourned to Tuesday, Nov. 13, at 10 A.M.

## THIRTY-SECOND HEARING.

---

BOSTON, Tuesday, Nov. 13, 1900.

The Commission met in the Court House at 10 A. M.

### OPENING FOR RESPONDENT, *resumed.*

Mr. GREEN. May it please your Honors: In reading over the stenographer's minutes of what I said yesterday, I seem to have said at one point in discussing the electric plant, that it was clear that we should take that plant. I had in mind as I began that sentence the interruption which has occurred to this case owing to attempts to adjust matters between the City and the Water Power Company, and what I had started out to say was that it was clear that litigation should proceed in regard to the taking of these plants. Our contention which I had made both prior and subsequent to that statement was along the line that under some conditions in this case it would be the duty of this Commission not to assign us that plant.

This is not a case of eminent domain, and we say that in this case the rule in eminent domain cases does not apply. This is a voluntary surrender by the Water Power Company, or offer to surrender by the Water Power Company, of its property to the city. Now, this being voluntary, the sale and compensation clauses are subject to the rule of strict construction. They are in the nature of privileges granted by the State to the Company, and any ambiguity in the terms must operate in the construction of these clauses against the Company. I have previously alluded to property which is not to be sold to us under the terms of this act. I have alluded to franchises. It is clear that we derive our franchises directly from the legislature, and we do not obtain them from this Company. The Company does not transfer its franchises to us. I have discussed at some length property which is suitable for the purposes of its use. The Commission, we con-

tend, cannot transfer to us property which is not offered by the Company in its schedule, because this is not a taking; it is not a case of eminent domain, because this is a voluntary surrender on the part of the Company. Therefore this Commission can only consider and can only assign to us what the Company has elected to sell us, as shown by its schedule. The Company, it is our contention, is concluded by its offer; that is, the offer and the schedule fix the rights of both the parties, the rights of the Company and the rights of the City. If this Commission, except in a manner hereafter alluded to, goes outside of that schedule, then it is exercising eminent domain over the property of this Company, and is taking property which the Company has not elected to sell, which it has deliberately concluded not to offer to us. And if you do that it is our fear that a rule of damages would be applicable in such a condition not contemplated by the rules laid down in these statutes, that the property which came to us would not be the property voluntarily offered to us—it would be property which you selected and took from the Company, apart from the things elected by it to be sold. So we say that the Commission, in the first instance, should not go outside of the schedule of property submitted by the City without the consent of the Company. But we say further that with the consent of the Company the Commission should not go outside of that schedule if the City objects. Consent, in other words, must be mutual.

We shall also contend that the Commission is not to award us property incapable of outright transfer. In Section 13 the Commissioners are to decide what property is to be sold and purchased, and in that section the words "rights and easements" are used. But we contend that those are fixed rights and easements, rights and easements over lands of third persons, and not rights and easements created for the purpose of making an offer to the City of Holyoke in this case; that property is to be sold, it is to be purchased, and that there is no provision here which contemplates the imposition of a perpetual rent. So that without our consent we contend that there should not be included in this transfer or valuation property which is incapable of outright sale.

Now, finally, gentlemen, upon the basis of this valuation, a word, for it underlies all our evidence and our entire contention.

We say that the price to be fixed here is limited to selling value. We say that the principle, in substance adopted by our friends of getting at what I should call, perhaps inartificially, insurance value—getting at the reproductive cost or price or value of the buildings item by item on the hypothesis that they are properly laid out and well adapted to the purposes of their use—assuming all that, such an insurance value is not the value that we are seeking in this case; that if the words “fair market value” or some equivalent were not used here, there might be a contention raised—even then, we think, susceptible of successful rebuttal—that such a line of valuation as they have adopted might be pursued. But with the designation of “fair market value” as the rule to be adopted here, we are to get at the selling value, the price at which we can suppose that a fair and reasonable purchaser would buy.

We say, secondly, that this property is to be valued as a whole, unless the Company could get more for a part dismantled and the dismantlement value of the rest than if valued as a whole. That is, you are to get at the value for the most profitable use to which it could be put. We say that, as a rule, the value of the plant is to be taken as a whole, going, in order to get at its greatest value. Now if the value of the gas plant is largest operated as a gas plant, then that is the value that you are to give to it. But if you should conclude, to make an illustration, that the land on which this gas plant stands, if sold by itself for some other purpose, added to the price that you could get for the buildings dismantled and taken from it, exceeds the value of the land and buildings for gas purposes, then it should be valued, as the first step, for its most valuable purposes. But whichever way you value this part, is it to be taken by the city? is it to be assigned to the city by you, if it is not suitable for the ordinary business of the vendor? In other words, if you find that it is worth more for some other use than it is for the ordinary business of the vendor, and by reason of such excess value is not suitable for such business, you are not to deprive them of their property by giving it to us at a price less than they could obtain for it elsewhere, but you are to let them keep it and not to assign it to us.

We are willing, in getting at the value of this property, and we



expect the commission will, in most instances, consider the value of the property as a going concern, and there is nothing inconsistent in that in what I have said. We do not ask you to reduce this to old junk, unless by reason of some of the suggestions I have already made. We are willing to consider what that is worth, either plant, going, operating, mains down, poles up, and everything ready for the operation of the immediate buyer,—that is, by “going” plant, I mean an assembled plant with all its parts united, ready for immediate operation; and we shall expect you in arriving at the value of this plant to weigh those advantages against the disadvantages of its being an old plant, for instance, of unsuitable capacity, of extravagant efficiency, or of any other disadvantage that suggests itself, and out of all those resulting factors arrive at the question of value; always and in each case, however, holding to the principle that, if by any reason, for cost of operation, expense of power, or otherwise, it cannot be operated economically, an ordinary purchaser would not take it because of the expense in manufacturing or distributing its product, that it is not available for the ordinary business of the vendor, that it is not suitable for the purpose of its use.

I thank you, gentlemen, for your attention.

**TESTIMONY FOR THE RESPONDENT.**

FREDERICK J. DAVIS, *sworn.*

*Direct examination by Mr. GREEN.*

- Q. What is your name? A. Frederick J. Davis.
- Q. You live in Boston? A. Yes, sir.
- Q. And where is your place of business? A. Waltham.
- Q. Waltham, Mass.? A. Yes, sir.
- Q. What is your business, Mr. Davis? A. Foundry, machines and engineering for gas and water works.
- Q. For gas and water works? A. Yes, gas principally.
- Q. How long have you been engaged in that business? A. Oh, something like forty years.
- Q. And are you the member of a firm? A. Yes, sir.
- Q. And the name of the firm? A. Davis & Farnham Manufacturing Company.
- Q. Have you erected gas works complete? A. Yes, sir.
- Q. And have you appraised gas plants? A. Yes, sir.
- Q. And you have made alterations and extensions and rebuilt plants? A. Yes, sir.
- Q. Will you state, if you please, what gas works and where you have built entire? A. We built the works in Decatur, Illinois; Centralia, Illinois; Cairo, Illinois; Westerly, Rhode Island; Palatka, Florida; Vineland, New Jersey; St. John, New Brunswick; Fredericksburg, New Brunswick; Cambridge, Mass.; Arlington, Waltham.
- Q. And of what plants have you appraised the value? A. Malden, Waltham, Wakefield, and parts of many others.
- Q. What plants have you built in part? A. Well, Newton & Watertown, Worcester, Marlboro, the Equitable — Baltimore, that would be; Jamaica Plain, Fitchburg, Salem, Malden & Melrose, Clinton, Northampton.
- Q. That is Massachusetts? A. Massachusetts. Nantucket, Athol, North Adams, Newburyport, Attleboro, Fall River, Pittsfield, Lowell, Charlestown, Arlington and many others.

Q. You have a list of them there? A. Yes. Chelsea, Haverhill, East Boston, Dorchester, Lawrence, Brookline, Milford, South Boston, North Attleboro, Quincy; Burlington, Vermont; Manchester, New Hampshire; Nashua, New Hampshire; Portsmouth; Pawtucket, Rhode Island; Providence; Newport, Rhode Island; New Britain, Connecticut; Nassau Gas Works, Brooklyn, New York; Williamsburg, New York; Bath, Maine; Portland, Bangor; Saco & Biddeford; Woonsocket, Rhode Island; Concord, New Hampshire; Great Falls, New Hampshire; Keene, New Hampshire; Norwalk, Connecticut; Canton, Illinois; Norwood, Massachusetts; Chicopee, Westfield; Catskill, New York, and a good many others.

Q. Have you looked over the schedule of the property of the Holyoke Water Power Company used in its gas works, as contained in volume 1 of this evidence? A. I have.

Q. Have you made an examination of that property in Holyoke, the land and buildings and apparatus that they set out? A. I have.

Q. When did you examine it, as nearly as you recall? A. Well, the last of 1898, somewheres there; along, I think, 1898; over a year ago, anyway. I don't remember the exact date that I called there.

Q. How carefully did you examine it? A. Well, I went to the works and examined the buildings thoroughly, took dimensions of the buildings.

Q. From what did you take dimensions of the buildings? A. From my own observations. Afterwards, after I had done all of that, I had and saw the plans, but I had done this work before I saw that plan; and I took dimensions of all the machinery, after the buildings, and the street mains. I had a memorandum of the different sizes of mains, which I made my figures from; and quite a good deal of stuff in the works left over, that is, pipe and fitting and those things.

Q. That is, I understand you made your own measurements and your own personal examination of the plant, and then you examined the plans later? A. Yes, sir.

Q. That were in evidence here in this case? A. Yes.

Mr. GREEN. Those are the plans. If I am in error—where is that box of plans, to be sure they are the same plans? I understood they were the same plans.

Mr. BROOKS. You got up a set of plans; these were not in existence at the time he made an examination.

The WITNESS. They were plans and a schedule of the work that I saw after I had made my examination.

Q. Whether or not the schedule is the schedule referred to in volume 1 of this evidence? A. I don't remember.

Mr. GOULDING. Can't he identify the plans?

Mr. GREEN. I was just going to ask him.

Q. Whether or not—

The CHAIRMAN. Mr. Green, are those the plans that are already in evidence?

Mr. GREEN. They are in evidence. As I understand, they were brought from the County Commissioners' room by Mr. Kirkpatrick.

The CHAIRMAN. The same—

Mr. GREEN. The same that have been in the case. They are brought from the County Commissioners' room in Springfield.

Mr. GOULDING. They are marked, aren't they?

Mr. GREEN. Yes, they are marked here, "F. G. M."

Mr. BROOKS. I thought we might perhaps want to refer to them as an exhibit.

Q. Whether or not you looked over this set of plans? A. Not until—I saw these plans after I had made my examination.

Mr. MATTHEWS. Are these the plans that he spoke of a moment ago?

The CHAIRMAN. We understand, Mr. Matthews, they are the same plans that have been used.

Q. Then you took your quantities from your own observation? A. Yes, sir.

Q. Some plans you saw afterwards? A. The plans I saw afterward.

Mr. GOULDING. He says he saw these plans.

Q. These plans, you say, you saw afterwards? A. These plans, or a blue print like those; plans of the gas works at Holyoke; not for the purpose of using them.

Q. Oh, you did not see them for the purpose of using them?

A. No, sir. My street mains, I took the memorandum which was sent me for the amounts.

Q. Now, Mr. Davis, what, in your opinion, was the fair market value in January, 1898, of the gas plant of the Holyoke Water Power Company? A. I will refer that to some figures; I cannot tell you—

Q. Have you your schedule? (The witness produced a schedule.)

Q. Before I ask this, you have a prepared schedule bearing on the— A. The old work?

Q. Yes. You have a schedule here. If you will turn to page 1 of your schedule, Mr. Davis?

The CHAIRMAN. The question is as to what you deemed the fair market value of the property at that time.

By Mr. GOULDING.

Q. Is there any summary that shows that in the schedule?

A. I have a summary; you want the—

By Mr. GREEN.

Q. Just give us the total value. A. \$200,388, exclusive of land.

Q. Well, considering the land and all, what do you consider the fair market value in January, 1898, of the gas plant? A. My estimate of the land for the new work was \$13,000.

Mr. BROOKS. I do not see how this witness is qualified to express an opinion on the value of land.

The WITNESS. I called the two lands the same.

The CHAIRMAN. He cannot testify as to the value of land. He may refer, as the witnesses for the petitioner have done, to the value given by some other people.

Mr. BROOKS. I would like to have the answer stricken out, your Honor.

The CHAIRMAN. Just as you please, if you want it stricken out; but at the same time, so that there may be no misunderstanding on this subject, I do not see why these experts cannot do exactly what your experts did.

Mr. GREEN. Let him assume—

The CHAIRMAN. Assume the value of the property.

Mr. BROOKS. Of course we had experts that were acquainted with the value.

The CHAIRMAN. Certainly.

Mr. BROOKS. Those that were not acquainted, assumed a value when they came to make up the amount.

The CHAIRMAN. I suppose that is what this man has done.

Mr. BROOKS. We put it distinctly that way in the assumption.

The CHAIRMAN. Let him assume a value, then.

Q. Mr. Davis, have you assumed a value for the land, and if so, what amount?

Mr. BROOKS. Tell us where it appears on the schedule, if you will be kind enough.

Mr. MATTHEWS. It is on page 66.

Mr. GREEN. Page 66 of this schedule.

Mr. GOULDING. I do not understand that to be any valuation of the land of the petitioners at all. It does not purport to be a valuation of the land that has been taken by the petitioners. It is this witness's opinion as to what a piece of land somewhere that he selected would be worth.

Mr. GREEN. I will come to that in just a moment, to the satisfaction of our friends.

Q. Turn to page 1 of our schedule. A. \$13,182.

Q. You have assumed a value of \$13,182 for the value of this land? A. Yes, sir.

Q. Now, turn to page 1 of this schedule, Mr. Davis, please.

Mr. GOULDING. Page what?

Mr. GREEN. Page 1; the first page of the schedule.

Q. Assuming a value of \$13,182 for the land, what, in your opinion, was the fair market value of the gas plant of the Holyoke Water Power Company in January, 1898?

Mr. BROOKS. That is, including the land?

Mr. GREEN. I say, assuming a value of \$13,182.

Mr. BROOKS. All right.

Mr. GREEN. For the land.

Q. Will you turn to page 1, Mr. Davis, of your schedule, the first item? A. There is nothing on page 1—oh, yes. \$213,570.73, assuming the land to be thirteen thousand and something.

Mr. GREEN. I desire to offer these schedules and have them marked.

The schedule was marked "Exhibit 86," and is as follows:

[EXHIBIT 86.]

## MR. DAVIS'S SCHEDULE.

FAIR MARKET VALUE IN JANUARY, 1898, OF THE GAS PLANT  
OF THE HOLYOKE WATER POWER COMPANY, \$213,570.73.

*DATA USED IN FORMING THE ABOVE OPINION.*

I. DETAILED ESTIMATES OF THE VALUE OF THE BUILDINGS, MACHINERY, STREET WORK, AND MATERIALS ON HAND . . .	47
II. ESTIMATE OF COST OF A NEW AND MODERN PLANT SUITED TO THE NEEDS OF HOLYOKE, WITH PLANS AND SPECIFICATIONS,	60
III. RELATIVE CAPACITY OF THE TWO PLANTS . . . . .	69
IV. MEMORANDUM OF CHANGES IN THE PRESENT PLANT NECESSARY TO MAKE ITS CAPACITY EQUAL TO THAT OF THE NEW PLANT,	70
V. VALUE OF THE LAND . . . . .	70
VI. RELATIVE VALUE OF THE TWO PLANTS . . . . .	70

## I.

DETAILED ESTIMATES OF THE VALUE OF THE BUILDINGS,  
MACHINERY, STREET WORK, AND MATERIALS  
ON HAND.

## RETORT HOUSE BUILDING. (72 ft. x 60 ft. x 22 ft. high.)

210,000 brick @ \$10 . . . . .	\$2,100.00
4 doors @ \$20 . . . . .	80.00
17 windows @ \$8 . . . . .	136.00
53 squares slating @ \$10 . . . . .	530.00
10 iron shutters @ \$12 . . . . .	120.00
9 sections iron trusses, 40,000 lbs., @ 4½c. . . . .	1,800.00
140 perch of stone foundation @ \$2 . . . . .	280.00
30 squares excavating @ \$2.40 . . . . .	72.00
1,080 ft. flooring @ 25c. . . . .	270.00
	<u>\$5,388.00</u>

## WATER PLANT BUILDING. (50 ft. x 60 ft. x 27 ft. high.)

235,000 brick @ \$10 . . . . .	\$2,350.00
4 doors @ \$8 . . . . .	32.00
21 windows @ \$6.50 . . . . .	136.50
50 perch stone @ \$2 . . . . .	100.00
12 squares excavating @ \$2.40 . . . . .	28.80
4 sections iron trusses, 22,000 lbs., @ 5c. . . . .	1,100.00
39 squares slating @ \$10 . . . . .	390.00
450 sq. ft. flagging @ 30c. . . . .	135.00
Concrete . . . . .	80.00
2,420 ft. paving . . . . .	217.80
	<hr/>
	<u>\$4,570.10</u>

## NO. 1 BRICK BUILDING AND TANK. (62 ft. diam. x 21 ft. high.)

88,000 brick in bottom, 12 in. thick, @ \$11 . . . . .	\$968.00
250,000 brick in sides, 36, 32, 28, and 24 in., @ \$11 . . . . .	2,750.00
95,000 brick in building @ \$10 . . . . .	950.00
336 squares digging @ \$2.50 . . . . .	840.00
300 ft. coping @ 50c. . . . .	150.00
8 stone window sills @ \$4 . . . . .	32.00
8 windows @ \$7 . . . . .	56.00
1 door . . . . .	10.00
43 squares slating @ \$10 . . . . .	430.00
15,000 ft. lumber @ \$32 . . . . .	480.00
Nails, etc. . . . .	14.00
	<hr/>
	<u>\$6,680.00</u>

## NO. 2 BRICK BUILDING AND TANK.

(Tank, 65 ft. diam., 20 ft. 6 in. deep.)

266,000 brick @ \$11 . . . . .	\$2,926.00
345 squares digging @ \$2.50 . . . . .	862.50

(Building, 71 ft. diam., 43 ft. high.)

464,000 brick @ \$10 . . . . .	\$4,640.00
275 ft. coping @ 70c. . . . .	192.50
23 caps and sills @ \$1.50 . . . . .	34.50
590 ft. flagging @ 20c. . . . .	118.00
66 squares slating @ \$10 . . . . .	660.00
1 outside door . . . . .	10.00
23 windows @ \$5 . . . . .	115.00
20,000 ft. lumber @ \$32 . . . . .	640.00
Bolts, nails, etc. . . . .	40.50
2,000 lbs. top rods @ 2½c. . . . .	45.00
	<hr/>
	<u>\$10,284.00</u>



## No. 3 BRICK BUILDING AND TANK.

(Tank, 89 ft. 6 in. diam., 25 ft. 6 in. deep; tank bottom, 10 in. thick.)

95,000 brick in bottom @ \$11 . . . . .	\$1,045.00
243,000 brick in sides, 40 in., 36 in., 32 in., 28 in., 24 in., 20 in. thick, @ \$11 . . . . .	2,673.00
270,000 brick in building @ \$10 . . . . .	2,700.00
110 perch of foundation @ \$2.25 . . . . .	247.50
Chestnut platform . . . . .	100.00
776 squares of excavating @ \$2.50 . . . . .	1,940.00
110 squares of slating @ \$10 . . . . .	1,100.00
40,000 ft. lumber @ \$32.00 . . . . .	1,280.00
Bolts and nails . . . . .	52.00
2 doors @ \$12.50 . . . . .	25.00
35 windows @ \$4.50 . . . . .	157.50
Painting . . . . .	60.00
Fencing . . . . .	250.00
2,800 lbs. tie rods @ 2½c. . . . .	63.00
525 ft. coping @ 70c. . . . .	367.50
8 granite blocks, 4 ft. x 4 ft. x 6 in., @ \$9.60 . . . . .	76.80
	<hr/>
	\$12,137.30

## BRICK COAL SHED. (86 ft. x 80 ft. 6 in.)

257,000 brick @ \$10 . . . . .	\$2,570.00
110 perch of stone @ \$2 . . . . .	220.00
34 squares of excavating @ \$2.40 . . . . .	81.60
6,923 ft. concrete @ 6c. . . . .	415.38
850 ft. flagging @ 20c. . . . .	170.00
Roof, windows, and all wood work . . . . .	0.00
7 windows @ \$5 . . . . .	35.00
2 doors, sliding, @ \$10 . . . . .	20.00
7,000 ft. roofing @ 16c. . . . .	1,120.00
	<hr/>
	\$4,631.98

## OLD WOODEN SHEDS. (One shed, 62 x 41 ft.)

4 squares excavating @ \$2.40 . . . . .	\$9.60
15 perch of stone @ \$2.25 . . . . .	33.75
8,000 ft. lumber @ \$15 . . . . .	120.00
Shingles . . . . .	80.00
1,600 ft. concrete @ 6c. . . . .	96.00
	<hr/>
	\$339.35
One shed, 30 x 15 ft. . . . .	<hr/>
	\$60.00

## OFFICE AND HORSE SHED.

## Office Building.

5 squares excavating and back filling @ \$2.40 . . . . .	\$12.00
8 perch stone @ \$2.25 . . . . .	18.00

38,000 brick @ \$10 . . . . .	\$380.00
450 ft. concrete @ 6c. . . . .	27.00
Stone sills, caps, and hearths . . . . .	55.00
7,500 ft. lumber @ \$32 . . . . .	240.00
90 ft. chair railing @ 5c. . . . .	4.50
2 outside doors and frames @ \$7 . . . . .	14.00
7 inside doors and frames @ \$3.50 . . . . .	24.50
8 window frames, etc., @ \$5.50 . . . . .	44.00
8 inside blinds @ \$3 . . . . .	24.00
4 ventilators @ \$1.25 . . . . .	5.00
9 squares slating @ \$10 . . . . .	90.00
Plumbing . . . . .	80.00
Hardware, painting, and drain . . . . .	105.00
Gas fixtures . . . . .	35.00
Mantels and fireplaces . . . . .	60.00
Inside finish . . . . .	25.00
	<hr/>
	\$1,243.00
Horse shed . . . . .	75.00
	<hr/>
	\$1,318.00

## PURIFYING WASH ROOM, CONDENSING AND EXHAUSTER BUILDING.

(144 ft. x 30 ft. x 18 ft high.)

250,000 brick @ \$10 . . . . .	\$2,500.00
Stone foundation 5 ft. high, averaging 2½ ft. thick, making	
235 perch @ \$2.25 . . . . .	528.75
111 squares excavating, 6 ft. x 6 ft. x 6 ft., @ \$2.40 . . . . .	266.40
58 squares slating @ \$10 . . . . .	580.00
Carpenter work . . . . .	0.00
	<hr/>
	\$3,875.15
25 windows @ \$6 . . . . .	150.00
7 doors @ \$8 . . . . .	56.00
13,000 ft. lumber @ \$35 . . . . .	455.00
	<hr/>
	\$4,536.15

## STORAGE, STATION METER AND LIME ROOM.

(110 ft. long, 20 ft. wide, and 15 ft high.)

126,000 brick @ \$10 . . . . .	\$1,260.00
Stone foundation 5 ft. high, averaging 2½ ft. thick, making	
135 perch @ \$2.25 . . . . .	303.75
60 squares excavating, 6 ft. x 6 ft. x 6 ft., @ \$2.40 . . . . .	144.00
33 squares slating @ \$10 . . . . .	330.00
Carpenter work . . . . .	00.00
	<hr/>
	\$2,037.75
20,000 ft. lumber @ \$35 . . . . .	700.00
8 doors @ \$8 . . . . .	64.00
28 windows @ \$6 . . . . .	168.00
	<hr/>
	\$2,969.75

## MR. DAVIS'S SCHEDULE.

51

## ONE WING, BLACKSMITH SHOP. (27 ft. 8 in. x 15 ft. 4 in. x 15 ft. high.)

20,000 brick @ \$10 . . . . .	\$200.00
Stone foundation 3 ft. deep and 2½ ft. thick :	
16 perch @ \$2.25 . . . . .	36.00
3 squares excavating @ \$2.40 . . . . .	7.20
1 door . . . . .	8.00
4 windows @ \$6 . . . . .	24.00
500 ft. tar and gravel roof @ 6c. . . . .	30.00
Sundries . . . . .	63.00
	<hr/>
	\$368.20
	<hr/>

## ONE WING, WATER GAS METER ROOM. (24 ft. x 20 ft. x 15 ft. high.)

65,000 brick @ \$10 . . . . .	\$650.00
Stone foundation, 5 ft. high x 2½ ft. thick :	
40 perch @ \$2.25 . . . . .	90.00
3 squares excavating @ \$2.40 . . . . .	7.20
6 squares slating @ \$10 . . . . .	60.00
Carpenter work . . . . .	0.00
1 door . . . . .	9.00
6 windows @ \$6 . . . . .	36.00
8,000 ft. lumber @ \$35 . . . . .	280.00
	<hr/>
	\$1,132.20
	<hr/>

## PASSAGEWAY. (20 ft. x 6 ft. x 15 ft. high.)

14,000 brick @ \$10 . . . . .	\$140.00
Stone foundation :	
13 perch @ \$2.25 . . . . .	29.25
Excavating . . . . .	3.00
Slating . . . . .	16.00
Carpenter work . . . . .	35.00
	<hr/>
	\$223.25
	<hr/>

## VALVE ROOM. (10 ft. x 12 ft. x 15 ft. high.)

6,000 brick @ \$10 . . . . .	\$60.00
7 perch @ \$2.25 . . . . .	15.75
Excavating . . . . .	2.00
Slating . . . . .	15.00
Carpenter work . . . . .	35.00
	<hr/>
	\$128.75
	<hr/>

## WATER GAS PLANT.

## ENGINE ROOM. (21 ft. 4 in. x 29 ft. 8 in. x 15 ft. high, flat roof.)

30,000 brick @ \$10 . . . . .	\$300.00
5 squares excavating @ \$2.40 . . . . .	12.00
18 perch stone @ \$2 . . . . .	36.00

1 door . . . . .	\$15.00
6 windows @ \$10 . . . . .	60.00
Wood frame roof covered, tar and gravel . . . . .	150.00
165 ft. flagging @ 30c. . . . .	49.50
450 ft. brick paving @ 9c. . . . .	40.50
	<hr/>
	\$663.00
	<hr/>

*No. 1 Holder.*

(60 ft. diam. x 21 ft. deep; 56,000 capacity, single lift.)

39,034 lbs. of iron @ 4c. . . . .	\$1,561.36
Columns and girders . . . . .	500.00
Inlets and outlets, 2 valves . . . . .	225.00
	<hr/>
	\$2,286.36
	<hr/>

*No. 2 Holder.*

(119,000 ft. capacity; inner section, 61 ft. 6 in. x 19 ft. 10 in.; outer section, 63 ft. x 18 ft. 10 in.)

77,400 lbs. iron @ 4c. . . . .	\$3,096.00
Inlet and outlet . . . . .	240.00
12 columns, 4,000 each, 48,000, @ 3c. . . . .	1,440.00
12 chains, about 480 ft., @ 30c. . . . .	144.00
12 sheaves and frames, 4,800 lbs., @ 3½c. . . . .	168.00
12 girders @ \$50 . . . . .	600.00
Counter weights, 14,000 lbs., @ 2c. . . . .	280.00
	<hr/>
	\$5,968.00
	<hr/>

*No. 3 Bridge Street Holder.*

(Single lift; 150,000 ft. capacity; holder, 87 ft. diam. x 25 ft. deep.)

80,522 lbs. iron @ 4½c. . . . .	\$3,623.49
Inlet and outlet pipes, 12 in. . . . .	280.00
8 cast-iron columns, 40,000 lbs., @ 3½c. . . . .	1,400.00
8 girders @ \$75 . . . . .	600.00
8 weights, 21,312 lbs., @ 2c. . . . .	426.24
8 sheaves and frames, 4,000 lbs., @ 3½c. . . . .	140.00
8 chains, about 240 ft., @ 30c. . . . .	72.00
12 tank rails, 4,800 lbs., @ 2c. . . . .	96.00
	<hr/>
	\$6,637.73
	<hr/>

*Supplies and Tools on Hand.*

30 retorts @ \$22 . . . . .	\$660.00
2,366 lbs. casting @ 2½c. . . . .	59.15
29 shovels @ 50c. . . . .	14.50
10 wheelbarrows @ \$1.50. . . . .	15.00
8 ladders @ \$2 . . . . .	16.00
13 pairs tongs @ 40c. . . . .	5.20
4 monkey wrenches @ 70c. . . . .	2.80

## MR. DAVIS'S SCHEDULE.

53

7 Stilson and pipe wrenches . . . . .	\$15.00
2 vises and 7 pipe tongs . . . . .	12.00
4 stocks and 25 dies . . . . .	30.00
chain tongs and wrench . . . . .	2.00
2 furnaces, 3 kettles and ladles . . . . .	20.00
1 cast-iron pipe cutter . . . . .	30.00
17 cold chisels @ 20c. . . . .	3.40
6 diamond pt. chisels @ 20c. . . . .	1.20
20 caulking tools @ 20c. . . . .	4.00
5 cutters . . . . .	2.50
1 set of joiners . . . . .	1.00
5 caulking hammers @ 50c. . . . .	2.50
Paving tools . . . . .	18.00
2 ratchets, 20 drills, and 15 taps . . . . .	18.50
13 combination drills and taps . . . . .	19.50
4 reamers and 3 claws . . . . .	6.50
36 picks @ 75c. . . . .	27.00
9 lanterns, 3 tool boxes, and 1 vise . . . . .	20.60
9 levels @ 50c. . . . .	4.50
1 cleaver, 2 grip pumps, 3 trucks . . . . .	38.50
Carpenter's tools . . . . .	10.00
Blacksmith forge and tools . . . . .	25.00
Baskets, side derricks, etc. . . . .	16.00
	<hr/>
	\$1,100.35
4 coke wagons . . . . .	200.00
2 coke chutes . . . . .	40.00
2 coke buggies . . . . .	40.00
	<hr/>
	\$1,380.35

*Office Furniture, Pressure Gauges, etc.*

Office furniture, pressure gauges, etc. . . . .	\$568.00
1 bar photometer up town . . . . .	100.00
Horse, buggy, sleigh, harness, and robes . . . . .	250.00
Street pressure gauges . . . . .	125.00
Engine and shed . . . . .	200.00
1 tubular boiler (10 ft. long, 3 ft. 6 in. diam., 100 tubes 2 in.) . . . .	150.00
1 old boiler . . . . .	25.00
1 service cleaner . . . . .	20.00
Coal-hoisting machinery . . . . .	1,800.00
	<hr/>
	\$3,238.00

*Interior of Retort House.*

10 benches of sixes, including foundation and iron work . . . . .	\$10,000.00
140 ft. of bell and spigot pipe, 12 in., 10,500 lbs. @ 2c. . . . .	210.00
83 ft. 12-in. flanged pipe, 6,640 lbs., @ 3 $\frac{1}{2}$ c. . . . .	215.80
10 12-in. x 6-in. tees, 3,500 lbs., @ 3 $\frac{1}{2}$ c. . . . .	122.50

2 12-in. x 6-in. bell and spigot tees, 600 lbs., @ 3c. . . . .	\$18.00
3 12½-in. bends, 900 lbs., @ 3c. . . . .	27.00
2 upright Manning boilers, 21 ft. high, 4 ft. 6 in. diam. . . . .	1,400.00
1 Dean pump . . . . .	80.00
Steam connections . . . . .	110.00
Water connections . . . . .	85.00
Gas connections, gauges, etc. . . . .	60.00
Stack and foundation . . . . .	275.00
	<u>\$12,603.30</u>

## WATER GAS PLANT.

Complete, including the plant engine, blower elevator, stairs, flooring, gauges, small feed tank, and piping . . . . .	<u>\$12,000.00</u>
---	--------------------

## ESTIMATE VALUE OF THE HOLYOKE BENCH WORK IN USE.

10 arches complete in two sections.

*Iron work for 9 benches :*

9 ash-pans for half generate furnace, 300 lbs. = 2,700 lbs.	
9 double doors and frames, 300 lbs. . . . .	2,700 "
9 changing doors and frames, 200 lbs. . . . .	1,800 "
54 mouth-pieces, 14 in. x 26 in., 250 lbs. . . . .	13,500 "
54 standpipes, 200 lbs. . . . .	10,800 "
54 bridge pipe and plugs, 200 lbs. . . . .	10,800 "
54 dip pipes, 100 lbs. . . . .	5,400 "
27 grate bar bearers, 35 lbs. . . . .	945 "
9 dump bars, 90 lbs. . . . .	810 "
54 wrought-iron grates, 35 lbs. . . . .	1,890 "
18 slide dampers, 20 lbs. . . . .	360 "
9 arch bars, 275 lbs. . . . .	2,475 "
9 24-in. mains and 18 flanges, 1,750 lbs. . . . .	15,750 "
28 bender bars, 900 lbs. . . . .	25,200 "
9 6½-in. bends, flanged, 100 lbs. . . . .	900 "
	<u>96,030 lbs. @ 2c. per lb.</u>
	\$1,920.60
54 Brenner lids and frames @ \$7 . . . . .	378.00
9 6-in. valves, flange and wheel @ \$8 . . . . .	72.00
9 sections of pits @ \$50 . . . . .	450.00
Tar pipes and tie rods . . . . .	179.40
10 arches complete . . . . .	7,000.00
	<u>\$10,000.00</u>

## PURIFIERS.

4 purifiers, 20 ft. x 15 ft. x 3 ft. deep, 15-in. water seal and 12-in. con- nections and 12-in. seals . . . . .	<u>\$5,500.00</u>
---	-------------------

## CONDENSING ROOM.

1 standard washer with 12-in. by-pass . . . . .	\$2,100.00
1 round tubular condenser, 19 ft. high x 7 ft. diam., 475 $2\frac{1}{4}$ -in. tubes, 12-in by-pass . . . . .	1,400.00
1 square tubular condenser, 13 ft. 8 in. long x 4 ft. 6 in. wide by 12 ft. 6 in. high, 12-in. by-pass . . . . .	748.50
	<u>\$4,248.50</u>

## EXHAUSTER ROOM.

1 water wheel and conduit . . . . .	\$1,100.00
1 upright engine . . . . .	150.00
1 No. 5 exhauster and 12-in. by-pass . . . . .	400.00
1 No. 6 exhauster and 12-in. by-pass . . . . .	450.00
	<u>\$2,100.00</u>

## METER ROOM.

1 station meter, 8 ft. x 8 ft. . . . .	\$1,100.00
1 station meter, 8 ft. x 8 ft. . . . .	1,300.00
	<u>\$2,400.00</u>

## GENERAL PIPING ABOUT THE YARD ESTIMATED FROM PLANS.

325 ft. 15-in. pipe, water plant, to relieve holder, 32,500 lbs. @ $1\frac{1}{4}$ c. . .	\$487.50
To exhauster, 12,600 lbs. @ $1\frac{1}{4}$ c. . . . .	189.00
Other piping, wrought and cast, estimated . . . . .	275.00
Shafting, pulleys, and belting . . . . .	75.00
	<u>\$1,026.50</u>

## PIPE AND CONNECTIONS THROUGH THE WORKS.

597 ft. 12-in. pipe, 44,785 lbs. @ 2c. . . . .	\$895.70
680 ft. 6-in. water pipe, 22,400 lbs. @ 2c. . . . .	448.80
621 ft. 4-in. water pipe, 12,420 lbs. @ 2c. . . . .	248.40
85 ft. revivifying pipe, 1,070 lbs. @ 2c. . . . .	20.00
2 valves @ \$4 . . . . .	8.00
3,158 ft. of water, steam, and gas pipe, from $\frac{1}{4}$ in. to 2 in., @ 5c. . .	157.90
Steam trap, steam pot, and radiator . . . . .	75.00
	<u>\$1,853.80</u>

## WATER GAS PLANT, OIL OR NAPHTHA TANK COMPLETE.

(24 ft. diam. x 15 ft. high.)

21,789 lbs. iron @ 4c. . . . .	\$871.56
41,000 brick @ \$12 . . . . .	492.00
110 ft. coping @ 75c. . . . .	82.50
26 squares excavating, @ \$2.40 . . . . .	62.40
Wrought-iron pipe connections . . . . .	25.00
	<u>\$1,533.46</u>

## TANKS.

No. 1 oil tank, 23 ft. long, 7 ft. diam., 7,470 lbs. @ 4c. . . . .	\$298.80
No. 2 oil tank, 20 ft. long, 7 ft. diam., 6,810 lbs. @ 4c. . . . .	272.40
No. 3 ammoniacal tank, 23 ft. long x 7-in. diam., 7,470 lbs. @ 4c. . . . .	298.80
No. 1 tar tank, 8 ft. diam. x 10 ft. high . . . . .	115.00
No. 2 tar tank, 13 ft. diam. x 10 ft. high . . . . .	325.00
No. 3 tar tank, 30 ft. x 20 ft. x 10 ft. high . . . . .	950.00
No. 4 tar tank, 49 ft. 2 in. x 15 ft. x 11 ft. high . . . . .	1,228.00
<hr/>	
1 water gas tar tank, 23 ft. x 15 ft. . . . .	\$800.00
32,000 brick on above @ \$12 . . . . .	384.00
24 squares excavating @ \$2.40 . . . . .	60.00
<hr/>	
\$1,244.00	

## STREET MAINS LAID.

440 ft. 15-in. pipe, 44,000 lbs. @ 1c. . . . .	\$440.00
440 ft. digging and laying @ 25c. . . . .	110.00
10,475 ft. 12-in. pipe, 733,250 lbs. @ 1c. . . . .	7,332.50
10,475 ft. digging and laying @ 20c. . . . .	2,095.00
5,964 ft. 8-in. pipe, 238,160 lbs. @ 1c. . . . .	2,381.60
5,964 ft. digging and laying @ 15c. . . . .	894.60
32,033 ft. 6-in. pipe, 896,924 lbs. @ 1c. . . . .	8,969.24
32,033 ft. digging and laying @ 12c. . . . .	3,843.96
28,781 ft. 4-in. pipe, 460,496 lbs. @ 1c. . . . .	4,604.96
28,781 ft. digging and laying @ 10c. . . . .	2,878.10
68,219 ft. 3-in. pipe, 818,628 lbs. @ 1½c. . . . .	9,209.56
68,219 ft. digging and laying @ 10c. . . . .	6,821.90
1,953 ft. 2½-in. pipe, 17,577 lbs. @ 1½c. . . . .	197.74
1,953 ft. digging and laying @ 8c. . . . .	156.24
7,895 ft. 2-in. pipe, 55,265 lbs. @ 1½c. . . . .	621.74
7,895 ft. digging and laying @ 8c. . . . .	631.60
12,727 ft. 1½-in., 1½-in., and 1-in. pipe @ 9c. . . . .	1,145.43
<hr/>	
\$52,334.17	
15% off \$18,784.21 . . . . .	2,817.63
<hr/>	
\$49,516.54	

## METERS IN USE. (Have allowed 50%.)

1 2 lt. . . . .	\$3.90
2,140 3 lt. @ \$4.50 . . . . .	9,630.00
89 3 lt. " 5.70 . . . . .	507.30
84 10 lt. " 7.20 . . . . .	604.80
42 20 lt. " 9.90 . . . . .	415.80
30 30 lt. " 13.50 . . . . .	405.00
25 45 lt. " 22.50 . . . . .	562.50
10 60 lt. " 27.00 . . . . .	270.00
4 80 lt. " 37.20 . . . . .	148.80



## MR. DAVIS'S SCHEDULE.

57

8 100 lt. @ 45.00 . . . . .	\$360.00
8 150 lt. " 69.00 . . . . .	552.00
7 200 lt. " 96.00 . . . . .	672.00
1 250 lt. . . . .	135.00
7 300 lt. @ \$165 . . . . .	1,155.00
1 400 lt. . . . .	170.00
	<u>\$15,592.10</u>

## METERS, SHELVES, AND SERVICE PIPES.

2,457 meter shelves @ 75c. . . . .	\$1,842.75
30,000 ft. service pipes @ 3c. . . . .	900.00
30,000 ft. service pipes, putting in, @ 10c. . . . .	3,000.00
2,457 1½-in. iron cocks @ 45c. . . . .	1,105.65
2,457 1½-in. lt. @ 5c. . . . .	122.85
	<u>\$6,971.25</u>

## GAS METERS NOT IN USE. (Have made 30%.)

74 3 lt. @ \$5.25 . . . . .	\$388.50
20 5 lt. @ \$6.65 . . . . .	133.00
6 10 lt. @ \$8.40 . . . . .	50.40
2 20 lt. @ \$11.55 . . . . .	23.10
5 30 lt. @ \$15.75 . . . . .	78.75
1 45 lt. . . . .	26.25
1 300 lt. . . . .	192.50
81 meter shelves @ 50c. . . . .	40.50
	<u>\$933.00</u>

## CAST-IRON PIPE ON HAND.

552½ ft. 3-in. pipe, 6,630 lbs. @ 1¼c. . . . .	\$74.59
534½ ft. 4-in. pipe, 8,552 lbs. @ 1c. . . . .	85.52
2,603 ft. 6-in. pipe, 73,884 lbs. @ 1c. . . . .	738.84
7 ft. 8-in. pipe, 280 lbs. @ ¼c. . . . .	2.10
1,060 ft. 12-in. pipe, 74,200 lbs. @ 1c. . . . .	742.00
62 ft. 16-in. pipe, 6,820 lbs. @ 1c. . . . .	68.20
53 ft. 15-in. pipe, 5,300 lbs. @ 1c. . . . .	53.00
424 ft. 3-in. pipe, 5,088 lbs. @ 1¼c. . . . .	57.24
22,333 lbs. fittings @ 2¼c. . . . .	502.50
27 gate-boxes, 3, 4, and 8 in., 2,700 lbs. @ 2¼c. . . . .	67.50
	<u>\$2,391.49</u>

## GATES AND BOXES ON HAND.

4 3-in. valves @ \$5 . . . . .	\$20.00
1 4-in. valve . . . . .	5.84
9 8-in. valves @ 13.02 . . . . .	117.18
8 gate-boxes, 600 lbs. @ 3c. . . . .	18.00
	<u>\$161.02</u>

## STREET VALVES IN USE.

36 3-in. valves @ \$5.00 . . . . .	\$180.00
21 4-in. " " 5.84 . . . . .	122.64
26 6-in. " " 8.09 . . . . .	210.35
5 8-in. " " 13.02 . . . . .	65.10
5 12-in. " " 25.14 . . . . .	125.70
1 16-in. valve . . . . .	40.27
94 gate-boxes, 7,050 lbs. @ 2½c. . . . .	176.25
	<hr/>
	\$920.31
Add 10% on above for putting in . . . . .	92.03
	<hr/>
	\$1,012.34
Less 5% for depreciation . . . . .	50.61
	<hr/>
	<u>\$961.73</u>

## WROUGHT-IRON PIPE AND FITTINGS ON HAND.

223 ft. ½-in. pipe @ 5½c. . . . .	\$12.27
370 ft. ¾-in. pipe @ 5½c. . . . .	20.74
368 ft. 1-in. pipe @ 7c. . . . .	25.76
1,937 ft. 1½-in. pipe @ 8½c. . . . .	168.90
6,183 ft. 1-in. pipe @ 11½c. . . . .	726.51
4,530 ft. 1½-in. pipe @ 15½c. . . . .	702.15
4,705 ft. 1½-in. pipe @ 26c. . . . .	1,223.30
2,839 ft. 2-in. pipe @ 35c. . . . .	993.65
86 ft. 2½-in. pipe @ 52c. . . . .	44.72
10 ft. 3-in. pipe @ 68c. . . . .	6.80
111½ ft. 6-in. pipe @ \$1.85 . . . . .	206.28
	<hr/>
	\$4,131.08
Less 72% . . . . .	2,974.37
	<hr/>
	\$1,156.71
Less 10% . . . . .	115.67
	<hr/>
	\$1,041.04
Less 10% . . . . .	104.10
	<hr/>
	\$936.94
Less 5% . . . . .	46.84
	<hr/>
	<u>\$890.10</u>

## OLD WROUGHT-IRON PIPE ON HAND.

100 ft. 1-in. pipe	} 668 ft. @ 1½c. . . . .	\$10.02
442 ft. 1½-in. pipe		
123 ft. 1½-in. pipe		
67 brass cocks @ 35c. . . . .		23.45
		<hr/>
		<u>\$33.47</u>

## SUMMARY.

*Buildings.*

Retort house building . . . . .	\$5,388.00
Water plant building . . . . .	4,570.10
No. 1 building and tank . . . . .	6,680.00
No. 2 building and tank . . . . .	10,284.00
No. 3 building and tank . . . . .	11,693.00
Brick coal shed . . . . .	4,631.98
Old wooden sheds . . . . .	399.35
Office and horse shed . . . . .	1,318.00
Purifying, wash-room, condensing and exhauster building . . . . .	4,536.15
Storage station, meter, and lime-room . . . . .	2,969.75
One wing, blacksmith . . . . .	368.20
One wing, water gas meter-room . . . . .	1,132.20
Passageway . . . . .	223.25
Valve-room . . . . .	128.75
Water gas plant engine-room . . . . .	663.00
	<hr/>
	\$54,985.73
525 ft. coping @ 70c. = \$367.50; 8 granite blocks, 4 ft. x 4 ft. x 6 in. @ \$9.60 = \$76.80 (No. 3 building and tank) . . . . .	444.30
	<hr/>
	<u>\$55,430.03</u>

*Machinery.*

No. 1 holder . . . . .	\$2,286.36
No. 2 holder . . . . .	5,968.00
No. 3 Bridge Street single lift . . . . .	6,637.73
Supplies and tools on hand . . . . .	1,380.35
Office furniture, pressure gauges, etc. . . . .	3,238.00
Interior of retort house . . . . .	12,603.30
Water gas plant complete . . . . .	12,000.00
4 purifiers and 12-in. connections . . . . .	5,500.00
Condensing-room . . . . .	4,248.50
Exhauster-room . . . . .	2,100.00
Meter-room . . . . .	2,400.00
General piping about the yard, estimated from plans . . . . .	1,026.50
Pipe and connections through the works . . . . .	1,853.80
Water gas plant, oil or naphtha complete . . . . .	1,533.46
No. 1 oil tank . . . . .	298.80
No. 2 oil tank . . . . .	272.40
No. 3 ammoniacal tank . . . . .	298.80
No. 1 tar tank . . . . .	115.00
No. 2 tar tank . . . . .	325.00
No. 3 tar tank . . . . .	950.00
No. 4 tar tank . . . . .	1,228.00
One water gas tar tank, brick work, and excavating . . . . .	1,244.00
	<hr/>
	<u>\$67,508.00</u>

*Street Work and Materials on Hand.*

Street mains laid . . . . .	\$49,516.54
Meters in use . . . . .	15,592.10
Meter shelves and service pipes . . . . .	6,971.25
Gas meters not in use . . . . .	933.00
Cast-iron pipe on hand . . . . .	2,391.49
Gates and boxes on hand . . . . .	161.02
Street valves in use . . . . .	961.73
Wrought-iron pipe and fittings on hand . . . . .	890.10
Old wrought-iron pipe on hand . . . . .	33.47
	<u>\$77,450.70</u>

## RECAPITULATION.

Buildings . . . . .	\$55,430.03
Machinery . . . . .	67,508.00
Street work and materials on hand . . . . .	<u>77,450.70</u>
	\$200,388.73
Land . . . . .	<u>13,182.00</u>
	<u>\$213,570.73</u>

## II.

ESTIMATE OF COST OF A NEW AND MODERN PLANT SUITED  
TO THE NEEDS OF HOLYOKE, WITH PLANS' AND  
SPECIFICATIONS.

## RETORT HOUSE BUILDING. (72 ft. x 60 ft. x 22 ft. high.)

210,000 brick @ \$10 . . . . .	\$2,100.00
4 doors @ \$20 . . . . .	80.00
17 windows @ \$8 . . . . .	136.00
53 squares slating @ \$10 . . . . .	530.00
10 iron shutters @ \$12 . . . . .	120.00
9 sections iron trusses, 40,000 lbs., @ 4½c. . . . .	1,800.00
140 perch stone foundation @ \$2 . . . . .	280.00
30 squares excavating @ \$2.40 . . . . .	72.00
1,080 squares flagging @ 25c. . . . .	270.00
	<u>\$5,388.00</u>

## WATER PLANT BUILDING.

(53 ft. x 42 ft. x 27 ft. high, with wing 42 ft. x 22 ft. x 15 ft. high.)

172,000 brick @ \$11 . . . . .	\$1,892.00
4 sections iron trusses, 22,000 lbs. @ 5c. . . . .	1,100.00
36 squares slating @ \$10 . . . . .	360.00
10 windows @ \$8 . . . . .	80.00
1 door . . . . .	15.00

## MR. DAVIS'S SCHEDULE.

61

2,000 ft. brick paving, 10,000 brick @ \$10 . . . . .	\$100.00
11 window and door sills, set @ \$3.50 . . . . .	38.50
80 perch stone @ \$2 . . . . .	160.00
12 squares excavating @ \$2.25 . . . . .	27.00
(The meter and engine room covered with iron.)	
4,500 brick paving @ \$10 . . . . .	45.00
4 pieces beams, 23 ft. long x 6 in. = 92 ft., 16 lbs. to ft. = 1,472 lbs. @ 3c. . . . .	44.16
8 pieces, 2 x 2 x 1/4-in angle 42 ft. long = 336 ft., 2 1/2 lbs. to ft. = 756 lbs. @ 3c. . . . .	22.68
1,016 ft. No. 14 steel plate, 3 1/2 lbs. to ft. = 3,302 lbs. @ 4c. . . . .	132.08
5 windows @ \$8 . . . . .	40.00
2 doors @ \$15 . . . . .	30.00
7 door sills @ \$3.50 . . . . .	24.50
	<u>\$4,110.92</u>

## BRICK COAL SHED. (100 ft. x 72 ft. x 15 ft. high.)

145,000 brick @ \$11 . . . . .	\$1,595.00
2 slide doors @ \$15 . . . . .	30.00
100 perch of stone @ \$2 . . . . .	200.00
14 squares excavating @ \$2.25 . . . . .	31.50
7,200 ft. concrete flooring @ 8c. . . . .	576.00
18 8-in. cast-iron columns 15 ft. long, with base plates 800 lbs. = 14,400 lbs. @ 2c. . . . .	288.00
18,000 ft. spruce lumber @ \$28.00 . . . . .	504.00
7,500 ft. tar and gravel roofing @ 6c. . . . .	450.00
8 skylight windows, 5 x 6 @ \$10 . . . . .	80.00
	<u>\$3,754.50</u>

Coal-hoisting machinery . . . . .	<u>\$2,400.00</u>
-----------------------------------	-------------------

## WOODEN COKE SHED.

(76 ft. x 51 ft. x 15 ft. high; sides, 2-in. thick planking; roof the same, and covered with tar and gravel.)

246 ft. 10-in. x 12-in. sills = 2,460 feet @ \$28 . . . . .	\$68.80
360 ft., 24 pieces, 15 ft. x 12 in. x 10 in. = 3,600 ft. spruce @ \$28 . . . . .	100.80
32 perch of stone @ \$2 . . . . .	64.00
9 squares excavating @ \$2.25 . . . . .	20.25
12 cast-iron columns, 15 ft. x 8 in., with bases 800 lbs. = 9,600 lbs. @ 2c. . . . .	192.00
7,380 ft. spruce for sides @ \$25 . . . . .	184.50
11,000 ft. spruce for roof, 2 in. thick, @ \$25 . . . . .	275.00
Ventilators, 40 ft. long x 5 ft. wide x 3 ft. high, sides open, 500 ft. spruce @ \$32 . . . . .	16.00
4,000 ft. tar and gravel @ 6c. . . . .	240.00
	<u>\$1,161.35</u>

## PURIFYING BUILDING. (176 ft. 6 in. x 42 ft. 8 in. x 27 ft. 6 in. high.)

28 squares excavating @ \$2 . . . . .	\$56.00
200 perch of foundation @ \$2.25 . . . . .	450.00
410,000 brick @ \$11 . . . . .	4,510.00
950 ft. concrete sponge-room, 38 ft. x 40 ft., @ 16c. . . . .	152.00
28 door and window sills set @ \$3.50 . . . . .	98.00
100 squares slating @ \$10 . . . . .	1,000.00
7 ventilators, galvanized iron, @ \$20 . . . . .	140.00
5 double doors @ \$12 . . . . .	60.00
11 windows, 10 ft. x 5 ft., @ \$10 . . . . .	110.00
12 windows, 5 ft. x 5 ft., @ \$6 . . . . .	72.00
20,000 ft. for roofing, spruce, @ \$28 . . . . .	560.00
8,000 ft. for flooring, spruce, @ \$32 . . . . .	256.00
18 iron and wooden trusses @ \$70 . . . . .	1,260.00
50 ft. 10-in. beam for office and meter cellar, 30 lbs. = 1,500 lbs. @ 2½c. . . . .	37.50
120 ft. 6-in. beam for office and meter cellar, 14 lbs. = 1,680 lbs. @ 2½c. . . . .	42.00
4 iron columns, 8 ft. long, 400 lbs. = 1,600 lbs. @ 2½c. . . . .	36.00
4 base plates, 16 x 16 x ½ in., 40 lbs. = 160 lbs. @ 2½c. . . . .	4.00
74 ft. 10-in. beams, sponge-room cellar, 30 lbs. = 2,220 lbs. @ 2½c. . . . .	55.50
320 ft. 6-in. beams, sponge-room cellar, 14 lbs. = 4,480 lbs. @ 2½c. . . . .	112.00
4 columns, 8 ft. long, 400 lbs. = 1,600 lbs. @ 2½c. . . . .	36.00
4 columns base plates, 16 x 16 x ½ in., 40 lbs. = 160 lbs. @ 2½c. . . . .	4.00
2 iron door jambs, 2 ft. 6 in. high x 16 x ½ in., 230 lbs. @ 2½c. . . . .	5.75
2 sets of outside stairs @ \$15 . . . . .	30.00
244 ft. 10-in. beams, purifying cellar, 30 lbs. = 7,320 lbs. @ 2½c. . . . .	183.00
16 columns, 9 ft. to 10 ft. long, and 10 brackets, 825 lbs. = 13,200 lbs. @ 2½c. . . . .	297.00
16 base plates, 40 lbs. = 640 lbs. @ 2½c. . . . .	16.00
20 pieces 6-in. beam, 40 ft. long, 800 lbs., 14 lbs. to foot = 11,200 lbs. @ 2½c. . . . .	280.00
	<u>\$9,862.75</u>

## EXHAUSTER CONDENSING AND WASHER BUILDING.

(36 ft. x 36 ft. x 22 ft. high.)

118,000 brick @ \$11 . . . . .	\$1,298.00
52 perch stone @ \$2 . . . . .	104.00
7 squares excavating @ \$2.25 . . . . .	15.75
6,000 brick paving @ \$10 . . . . .	60.00
18 windows @ \$8 . . . . .	144.00
18 stone sills @ \$3.50 . . . . .	63.00
2 double doors @ \$12 . . . . .	24.00
2 door sills @ \$4 . . . . .	8.00
648 ft. flooring over exhauster-room, 2,500 ft. spruce @ \$32 . . . . .	80.00
4,500 ft. spruce for roof @ \$32 . . . . .	144.00
648 ft. tar and gravel @ 6c. . . . .	38.88
1 galvanized ventilator . . . . .	20.00
	<u>\$1,999.63</u>

## WATER GAS PLANT—OIL OR NAPHTHA TANK.

(30 ft. diam., 10 ft. high; tank, 38 ft. diam., 6 ft. deep; capacity, 52,870 gallons.)

22,700 lbs. @ 4c. . . . .	\$908.00
44,000 brick @ \$12 . . . . .	528.00
36 squares excavating @ \$2.40 . . . . .	86.40
123 ft. coping @ 75c. . . . .	92.25
Wrought-iron piping . . . . .	25.00
	<hr/>
	\$1,639.65

## TAR TANK.

(30 ft. diam. x 10 ft. deep; capacity, 52,870 gallons; with 12-in. partition through centre.)

50,000 brick @ \$12 . . . . .	\$600.00
106 ft. 10-in. beams, 30 lbs. = 3,180 lbs. @ 2½c. . . . .	79.50
Covered with plank, 3 in. thick, 2,050 ft. @ \$25 . . . . .	51.25
38 squares excavating @ \$2.25 . . . . .	85.50
	<hr/>
	\$816.25

## FOUR PURIFIERS.

(24 ft. x 24 ft. x 48 in. deep, with 21 16-in. valves, 16-in. connections, 12 tiers of sieves, 4 covers, 1 hoisting carriage and track overhead, tracks for charging and emptying boxes with 4 zinc buckets, and 4 endless chain falls and 4 carriages.)

72 bottoms, 8 ft. x 4 ft. x ¾ in. thick, 1,160 lbs. = 83,520 lbs. @ 3c. . . . .	\$2,505.60
48 side plates, 8 ft. x 4 ft. x ¾ in., 860 lbs. = 41,280 lbs. @ 3½c. . . . .	1,341.60
400 ft. water seal cups, 75 lbs. = 30,000 lbs. @ 3½c. . . . .	975.00
2,010 ft. tray bars, 2½ x ½ in., 4¼ lbs. = 8,560 lbs. @ 2½c. . . . .	214.00
140 stands, 25 lbs. = 3,500 lbs @ 2½c. . . . .	87.50
48 ears, 5 lbs. = 240 lbs. @ 3c. . . . .	7.20
4 crickets over inlets, 40 lbs. = 160 lbs. @ 2½c. . . . .	4.00
4,000 bolts, ½ and ¾ in., @ 2½c. . . . .	100.00
Lead and iron washers . . . . .	6.00
1,000 lbs. lead for putty @ 6c. . . . .	60.00
20 gallons oil @ 50c. . . . .	10.00
8 6-in. nickelled air cocks @ \$4 . . . . .	32.00
1 carriage and track for hoisting covers . . . . .	600.00
4 covers made of No. 8 and 10, 34,000 lbs. @ 5c. . . . .	1,700.00
4,608 ft. trays 1½ in. thick @ 18c. . . . .	829.44
2,304 ft. trays 1 in. thick @ 13c. . . . .	299.52
Sundries . . . . .	9.62
	<hr/>
	\$8,781.48

## 16-IN. CONNECTIONS.

17 16-in. crosses, 600 lbs. = 10,200 lbs. @ 3c. . . . .	\$306.00
10 16-in. tees, 500 lbs. = 5,000 @ 3c. . . . .	150.00
8 16-in. in and outlet risers, 700 lbs. = 5,600 lbs. @ 3c. . . . .	168.00
24 23-in. flanges ¾ in. thick, 75 lbs. = 1,800 lbs. @ 3c. . . . .	54.00
9 drips and 2-in. wrought pipe, 225 lbs. = 2,025 lbs. @ 3c. . . . .	60.75

151½ ft. 16-in. flange pipe, 105 lbs. = 15,908 lbs. @ 3c. . . . .	\$477.24
5 16-in. sleeves, 170 lbs. = 850 lbs. @ 2½c. . . . .	21.25
100 ft. 16-in. bell and spigot pipe, 100 lbs. = 10,000 lbs. @ 2c. . . . .	200.00
200 ft. 4-in. bell and spigot pipe, 16 lbs. = 3,200 lbs. @ 2c. . . . .	64.00
8 stands and 8 base plates, 100 lbs. = 800 lbs. @ 2½c. . . . .	20.00
4 4-in. bell crosses, 80 = 320 lbs. @ 3c. . . . .	9.60
1 4-in. tee, 60 lbs. @ 3c. . . . .	1.80
1 4½-in. bend, 50 lbs. @ 3c. . . . .	1.50
21 16-in. valve, flange and wheel outside screw @ \$68 . . . . .	1,428.00
1,150 bolts ½ in. @ 2½c. . . . .	28.75
100 bolts ¾ in. @ 3½c. . . . .	3.50
105 gaskets @ 8c. . . . .	8.40
Lead oil for putty, sundries, etc. . . . .	29.21
	<u>\$3,032.00</u>

## SUMMARY.

*Overhead Tracks.*

4 carriages, 4 endless chain falls, and 4 zinc buckets . . . . .	\$643.00
Boxes . . . . .	8,781.48
Connections . . . . .	3,032.00
	<u>\$12,456.48</u>

## STREET MAINS.

1,000 ft. 16-in. pipe laid @ \$1.15 . . . . .	\$1,150.00
10,000 " 12-in. " " " .90 . . . . .	9,000.00
10,000 " 10-in. " " " .80 . . . . .	8,000.00
15,000 " 8-in. " " " .60 . . . . .	9,000.00
40,000 " 6-in. " " " .40 . . . . .	16,000.00
50,000 " 4-in. " " " .30 . . . . .	15,000.00
45,000 " 3-in. " " " .25 . . . . .	11,250.00
171,000 . . . . .	\$69,400.00
Add 5% for specials . . . . .	3,470.00
	<u>\$72,870.00</u>
86,000 ft. paving @ 5c. . . . .	4,300.00
	<u>\$77,170.00</u>

## STREET VALVES.

1 16-in. valve . . . . .	\$40.25
10 12-in. valves @ \$25.14 . . . . .	251.40
10 10-in. " " 18.00 . . . . .	180.00
15 8-in. " " 13.02 . . . . .	195.30
40 6-in. " " 8.09 . . . . .	323.60
50 4-in. " " 5.84 . . . . .	292.00
45 3-in. " " 5.00 . . . . .	225.00
	<u>\$1,507.55</u>
Add 10%, putting in . . . . .	150.75
171 gate boxes, putting in @ \$1.50 . . . . .	256.50
	<u>\$1,914.80</u>



## METERS.

1	400-lt.			\$210.00
8	300-lt. @	\$192.50		1,540.00
4	250-lt. "	157.50		630.00
10	200-lt. "	112.00		1,120.00
10	150-lt. "	105.00		1,050.00
10	100-lt. "	52.50		525.00
10	80-lt. "	43.40		434.00
10	60-lt. "	31.50		315.00
30	45-lt. "	26.25		787.50
30	30-lt. "	15.75		472.50
50	20-lt. "	11.55		577.50
100	10-lt. "	8.40		840.00
200	5-lt. "	6.65		1,330.00
2,250	3-lt. "	5.25		11,812.50
2,723				<u>\$21,644.00</u>

2,723	meter shelves @	75c.		\$2,042.25
30,000	ft. 1½-in. service pipe @	5c.		1,500.00
2,000	ft. 1½-in. iron cocks @	45c.		900.00
2,000	ft. 1½-in. service L's @	5c.		100.00
30,000	ft. laying @	10c.		3,000.00
30,000	ft. paving @	5c.		1,500.00
				<u>\$9,042.25</u>

## WATER PLANT STATION METER.

*Blower, Engine, Naphtha Tank, and Naphtha Pump.*

Water plant, including 1 generator, 1 carburetor, 1 scrubber, 1 condenser with all connections, 1 naphtha or oil tank, and 1 oil or naphtha pump . . . . .				\$11,000.00
1	8 ft. x 8 ft. station meter and 12-in. connections . . . . .			1,700.00
1	engine and 1 blower . . . . .			800.00
				<u>\$13,500.00</u>

1	coal gas station meter, 9 ft. x 9 ft., with 16-in. by-pass and connections . . . . .			\$2,050.00
1	16-in. street governor, with by-pass and connection . . . . .			900.00
1	bar photometer . . . . .			150.00
	Safe and office furniture . . . . .			300.00
1	service cleaner and hand pump . . . . .			25.00
1	steam pump . . . . .			175.00
1,050	ft. 16-in. pipe, 100 lbs. to foot = 105,000 lbs. @ 2c. . . . .			2,100.00
	Gas, steam, and water pipe through the works . . . . .			650.00
	Tar pipe through works . . . . .			250.00
				<u>\$6,600.00</u>

## RELIEF HOLDER.

(Capacity, 101,780 ft. ;  $3\frac{1}{8}$  in. pressure. Gas Holder, 72 ft. x 25 ft.)

Gas holder, 72 ft. x 25 ft., 71,873 lbs. @ 5c. . . . .	\$3,593.65
Tank, 74 ft. x 25 ft. 4 in., 150,903 lbs. @ 4c. . . . .	6,036.12
8 columns, 2,650 lbs. = 21,200 lbs. @ 4c. . . . .	848.00
8 girders, 840 lbs. = 6,720 lbs. @ 4c. . . . .	268.80
16 diagonal braces L, 2,560 lbs. @ $2\frac{1}{2}$ c. . . . .	64.00
8 wind ties, 1 in., 840 lbs. @ $2\frac{1}{2}$ c. . . . .	21.00
12-in. inlet and outlet pipe . . . . .	378.00
Railing round the walk round . . . . .	30.00
1 ladder, 27 ft. @ 75c. . . . .	20.25
Railing on top of holder . . . . .	15.00
Stairs, 1,300 lbs. @ 4c. . . . .	52.00
Foundation on good land . . . . .	600.00
1 centre, 8 in., 1,040 lbs. @ 2c. . . . .	20.80

\$11,947.62

## DELIVERY HOLDERS.

(2 Gas Holders : inner section, 84 ft. x 23 ft. ; pressure,  $3\frac{1}{8}$  in. ; outer section, 85 ft. 9 in. x 23 ft. ; pressure together,  $4\frac{1}{8}$  in. Tank, 88 ft. x 23 ft. 6 in.)

1 tank, 250,745 lbs. @ 3c. . . . .	\$7,522.35
Inner section, 94,579 lbs. @ 5c. . . . .	4,728.95
Outer section, 54,750 lbs. @ 5c. . . . .	2,737.50
10 columns complete, 61,500 lbs. @ 4c. . . . .	2,460.00
20 girders, 25,250 lbs. @ 4c. . . . .	1,010.00
40 diagonal braces, 7,322 lbs. @ 3c. . . . .	219.66
10 wind ties, 1,305 lbs. @ 3c. . . . .	39.15
16-in. inlet and outlet pipes . . . . .	378.75
Crown support . . . . .	300.00
Guard rails . . . . .	210.00
Stairs . . . . .	75.00
Ladder . . . . .	45.00
Foundation good soil . . . . .	750.00

\$20,476.36

2

\$40,952.72

ESTIMATE ON TEN BENCHES OF 6S SET BACK TO BACK, 12-IN. AND 16-IN. CONNECTIONS, AND TWO UPRIGHT MANNING BOILERS.

10 ash-pans for half regenerative furnaces, 300 lbs. = 3,000 lbs. @ $2\frac{1}{2}$ c. . . . .	\$75.00
30 grate bar bearers, 35 lbs. = 1,050 lbs. @ $2\frac{1}{2}$ c. . . . .	26.25
10 dump bars, 90 lbs. = 900 lbs. @ $2\frac{1}{2}$ c. . . . .	22.50
60 wrought-iron grates, 35 lbs. = 2,100 lbs. @ $2\frac{1}{2}$ c. . . . .	52.50
10 double doors and frames, 300 lbs. = 3,000 lbs. @ 3c. . . . .	90.00

10 charging doors and frames 12 x 14, 200 lbs. = 2,000 lbs. @ 3c.	\$60.00
20 slide dampers and frames, 20 lbs. = 400 lbs. @ 3c.	12.00
10 arch bars 9 ft. 8½ in. long, 325 lbs. = 3,250 lbs. @ 2½c.	81.25
20 flue plugs, 25 lbs. = 500 lbs. @ 3c.	15.00
12 front binder bars 15 ft. long, 1,550 lbs. = 18,600 lbs. @ 2c.	372.00
16 end binder bars 13 ft. long, 900 lbs. = 14,400 lbs. @ 2c.	288.00
16 inner tie rods for end binder, 2 ft. 6 in. x 1½ in. @ \$1.50	24.00
12 inner tie rods front binder, 3 ft. 6 in. x 1½ in. @ \$1.60	19.20
8 end to end tie rods 55 ft. x 1½ in. @ \$12	96.00
6 side to side tie rods 23 ft. x 1½ in. @ \$4	24.00
60 mouth-pieces 14 x 26 in. reduced to 12 x 20 in., 250 lbs. = 15,000 lbs. @ 3c.	450.00
60 Brenner lids and frames @ \$18	1,080.00
20 7-in. stand-pipe, bell, and spigot, 140 lbs. = 2,800 lbs. @ 2½c.	70.00
20 7-in. stand-pipe, bell, and spigot, 100 lbs. = 2,000 lbs. @ 2½c.	50.00
60 7-in. to 6-in. stand-pipe, flange, and spigot, 200 lbs. = 12,000 lbs. @ 3c.	360.00
60 6-in. bridge pipe and 120 plugs, 200 lbs. = 12,000 lbs. @ 3c.	360.00
60 6-in. dip pipe, 100 lbs. = 6,000 lbs. @ 3c.	180.00
10 24-in. mains 9 ft. 2 in. long and 20 flanges, 2,150 lbs. = 21,500 lbs. @ 3c.	645.00
4 square seal tar drips, 200 lbs. = 800 lbs. @ 3c.	24.00
10 6-in. flange and wheel valves @ \$13	130.00
10 pieces 6½-in. bends, 2 flanges, 125 lbs. = 1,250 lbs. @ 3c.	37.50
10 12-in. to 6-in. tees, 6-in. flange, 12-in. bells, 300 lbs. = 3,000 lbs. @ 3c.	90.00
10 stands about 3 ft. long, 50 lbs. = 500 lbs. @ 3c.	15.00
240 bolts for mains ½ in. @ 3c.	7.20
1,000 bolts for B. D. and stand-pipe ½ in. @ 2½c.	25.00
20 gaskets for mains @ 8c.	1.60
200 gaskets for B. D. stand-pipe @ 5c.	10.00
Lead, oil, etc., for putty	20.00
4 scoops @ \$18	72.00
32 6-in. beams, 11 ft. long = 352 ft. 16 lbs. to foot = 5,632 lbs. @ 2c.	112.64
90 ft. 12-in. pipe, bell, and spigot, 75 lbs. = 6,750 lbs. @ 2c.	135.00
145 ft. 16-in. pipe, bell, and spigot, 100 lbs. = 14,500 lbs. @ 2c.	290.00
2 16-in. to 12-in. tees, 2 F. and 2 bell, 400 lbs. = 800 lbs. @ 3c.	24.00
3 16½-in. turns, 400 lbs. = 1,200 lbs. @ 3c.	36.00
3,240 ft. cast-iron flooring, 25 lbs. to ft. = 81,000 lbs. @ 2c.	1,620.00
1 Manning boiler, 150 horse power	1,150.00
2 coal wagons @ \$75	150.00
4 coke carts @ \$40	160.00
2 chutes @ \$20	40.00
Drawing tools, clinker bars, etc., 1,500 lbs. @ 5c.	75.00
Brick work for 10 benches	10,500.00
	<u>\$19,177.64</u>

1 square washer, 19 ft. high, 48 in. x 42 in., with 16-in. by-pass, 1,000,000 capacity . . . . .	\$1,550.00
2 tubular condensers, 19 ft. x 4 ft. diam., 253 2-in. tubes 14 ft. long, capacity each 450,000, the two 900,000, includes foundation . . .	\$1,680.00
1 No. 9 exhauster, with 16-in. by-pass and engine on same bed, 200,000 capacity . . . . .	\$2,730.00
1 12-in. water plant exhauster, with 12-in. by-pass connection . . .	\$1,850.00

## SUMMARY.

*Buildings.*

Retort house . . . . .	\$5,388.00
Water plant . . . . .	4,110.92
Brick coal shed . . . . .	3,754.50
Wooden coke shed . . . . .	1,161.35
Purifying . . . . .	9,862.75
Exhauster condensing and washer . . . . .	1,999.63
	<u>\$26,277.15</u>

*Machinery.*

Water gas plant, oil or naphtha tank . . . . .	\$1,639.65
Tar tank . . . . .	816.25
4 purifiers . . . . .	8,781.48
Connections . . . . .	3,032.00
Overhead tracks:	
4 carriages, 4 endless chain falls, etc. . . . .	643.00
Water plant and station meter, blower engine, etc. . . . .	13,500.00
1 coal gas station meter, etc. . . . .	6,600.00
10 benches, etc. . . . .	19,177.64
1 square washer . . . . .	1,550.00
2 tubular condensers . . . . .	1,680.00
1 No. 9 exhauster . . . . .	2,730.00
1 12-in. water plant exhauster . . . . .	1,850.00
	<u>\$62,700.02</u>
Coal hoisting machinery . . . . .	2,400.00
	<u>\$65,100.02</u>

*Street Work.*

Street mains . . . . .	\$77,170.00
Street valves . . . . .	1,914.80
Meters . . . . .	21,644.00
Meters, shelves, etc. . . . .	9,042.25
	<u>\$109,771.05</u>

*Holders.*

Relief . . . . .	\$11,947.62
Delivery . . . . .	40,952.72
	<u>\$52,900.34</u>

Plans and specifications . . . . .	\$250.00
<b>RECAPITULATION.</b>	
Buildings . . . . .	\$26,277.15
Machinery . . . . .	65,100.02
Street work, etc. . . . .	109,771.05
Holders . . . . .	52,900.34
	<u>\$254,048.56</u>
Plans and specifications . . . . .	250.00
	<u>\$254,298.56</u>
One extra tar tank . . . . .	816.25
	<u><u>\$255,114.81</u></u>

## III.

## RELATIVE CAPACITY OF THE TWO PLANTS.

Holder capacity, new works . . . . .	640,000 ft.
Holder capacity, old works . . . . .	<u>325,000 ft.</u>
Difference . . . . .	<u><u>315,000 ft.</u></u>
Purifying capacity, new works . . . . .	1,000,000 ft.
Purifying capacity, old works . . . . .	<u>450,000 ft.</u>
Difference . . . . .	<u><u>550,000 ft.</u></u>

Exhausters about double in new works.

Pipes through new works, 16-in.

Pipes through old works, 12-in.

Street governor twice the capacity in new works.

<i>New Works.</i>	STREET MAINS.	<i>Old Works.</i>
1,000 ft. 16-in.		440 ft. 15-in.
10,000 " 12-in.		10,475 " 12-in.
10,000 " 10-in.		5,964 " 8-in.
15,000 " 8-in.		32,033 " 6-in.
40,000 " 6-in.		28,781 " 4-in.
50,000 " 4-in.		68,219 " 3-in.
45,000 " 3-in.		1,953 " 2½-in.
		7,895 " 2-in.
		12,727 " 1-in. to 1½-in.
<u>171,000 ft.</u>		<u>168,487 ft.</u>

## IV.

## MEMORANDUM OF CHANGES IN THE PRESENT PLANT NECESSARY TO MAKE ITS CAPACITY EQUAL TO THAT OF THE NEW PLANT.

One new holder . . . . .	\$30,000.00
To enlarge or about double the capacity of the purifier . . . . .	6,500.00
One new condenser . . . . .	1,800.00
Refit one bench . . . . .	1,000.00
Other improvements . . . . .	3,000.00
Repairing and relaying mains . . . . .	15,000.00
	<u>\$57,300.00</u>

## V.

## VALUE OF THE LAND.

In valuing the land, I have taken as suitable for the purpose a lot of land owned by the city, comprising 87,880 ft. I have inspected the land, and ascertained its value to be 15c. per sq. ft., making a total cost of \$13,182, which I estimate to be the value of a site for the gas works, whether for the present works or for new works.

## VI.

## RELATIVE VALUE OF THE TWO PLANTS.

The difference between the estimated cost of the new plant (Schedule 2, page 61) and the estimated value of the Company's plant, both exclusive of land (shown in Schedule I., page 37), is \$54,726.81.

New plant . . . . .	\$255,114.81
Old plant . . . . .	200,388.00
	<u>\$54,726.81</u>

This is about the amount it will take to put the old plant in capacity equal to the new plant. (See Schedule IV., page 65.)

Take the two plants: in my judgment, the new plant is worth \$75,000 more than the old plant. This does not allow the fact that the old works are running.

The new plant . . . . .	\$255,114.81
Taking out . . . . .	75,000.00
Leaves . . . . .	\$180,114.81
The difference between this value and my first estimate of . . . . .	200,388.00
Is . . . . .	<u>\$20,273.19</u>

This difference will about represent the extra value of the old plant on account of its being in operation. These two ways confirm my first judgment of the value of the old plant.

Mr. GOULDING. I suppose that it may not be necessary for us to object to this schedule now on the ground that it is incompetent if it turns out that there are things in it that are incompetent—that our rights will be reserved.

Q. Now, Mr. Davis, in getting at this value of \$213,570.73, what data did you use? A. I went to the works and examined the buildings, machinery, holders—which would come under the head of machinery—and the street mains; a memorandum of the street mains which was furnished me—

Mr. GOULDING. I don't like to trouble you, but I find it a little difficult and my friend here to hear what you say. If you will raise your voice a little bit.

The WITNESS. To hear? I will fix that.

Mr. GOULDING. We are getting old over here, and deaf.

The WITNESS. So am I. I took a memorandum of the buildings and machinery, which included the holders and the machinery through the works, and the street mains from the memorandum which I had as to the amount and sizes. I figured them up separately, each building separate and each piece of machinery separate, and the holder and the buildings—the holder buildings—and also the water plant, and went through the street mains in the same way.

The CHAIRMAN. Is there any special variation between your schedule as to quantity, Mr. Matthews, and that of the petitioners?

Mr. MATTHEWS. How is that, Mr. Green, in respect to the gas plant?

Mr. GREEN. Well, there are some differences. It is not so marked as in the electric light plant.

The CHAIRMAN. All right.

Mr. GREEN. It is not very great in itself.

The CHAIRMAN. It is easily pointed out.

Q. Then having done that, what else did you take into consideration? A. I made plans and specifications and got up the cost of a new set of works of a million capacity, which I thought would be the requirements of Holyoke in the near future.

Q. And in doing that, what did you consider? A. I considered, exclusive of land—

Q. I don't want to get your values now, but you spoke some-

thing of the needs of Holyoke. Whether you mean by that you considered— A. I considered that they would need works of this size in the near future, that is, in a few years; that is, it is about twice the capacity of their old works in many respects.

Q. How would that plant that you designed compare, according to your opinion, with such a plant as a person would build who had occasion to build a plant—

Mr. GOULDING. That we object to.

Mr. BROOKS. It raises at once, I take it, the question of the ideal.

Mr. MATTHEWS. That was what Mr. Green was trying to find out, whether this was an ideal plant, or whether it was a commercial plant.

Mr. GREEN. In January, '98, suited to the needs of Holyoke.

A. That is larger, of course,—

Mr. COTTER. Wait a minute.

Mr. GREEN. Wait a moment.

The CHAIRMAN. What do you seek to—

Mr. GREEN. Let me strike that out. I want to put the question over again.

Q. Whether or not, in your opinion, the plant that you have designed was such a plant as a practical man would construct if constructing a plant anew in the city of Holyoke in January, '98?

Mr. GOULDING. I object.

The CHAIRMAN. There is no harm in answering that question, whether the one he designed would be one that a practical man would construct.

Mr. GOULDING. There may be no harm on the ground that it is wholly immaterial and irrelevant to anything here, and therefore don't hurt anybody.

The CHAIRMAN. Will you read the question, Mr. Stenographer?

(The question, "Whether or not in your opinion the plant that you have designed was such a plant as a practical man would construct if constructing a plant anew in the city of Holyoke, in January, '98," was read by the Stenographer.)

The CHAIRMAN. As an expert or a builder? "A practical man," you might strike that out.

Mr. GREEN. If in his opinion a practical man would do it, a practical gas man.



Mr. MATTHEWS. A practical gas man.

The CHAIRMAN. You can answer that question.

Mr. GOULDING. Save our rights, if you please.

The CHAIRMAN. Yes. You can answer that question.

A. That is what I got the plan for, what the plan and specifications are for. I think they are about what would be needed.

Q. If in January, '98, a plant was to be constructed new in the city of Holyoke, will you tell us what, in your opinion as a gas expert, you think the needs of the city called for in a general way.

Mr. GOULDING. We object to the question.

The CHAIRMAN. I suppose what you are trying to get at here, Mr. Green, is to show that a new plant can be made upon more economical lines, differing, perhaps, from this plant—I don't know whether it does or not, what your idea is,—and that you propose to show that that plant would cost less than this plant that you have got in mind. Is that about it?

Mr. GREEN. Well, something along that line. We desire to show, if your Honors please, first, what in our opinion would be built if there was occasion to build a new plant in the city of Holyoke in January, '98, or, in other words, the sort of a plant that a man would contemplate building in connection with any proposition of buying.

The CHAIRMAN. You are not valuing such a plant as that.

Mr. GREEN. No, we are not valuing that plant, but we are considering that plant as bearing upon the value of this plant. We are considering, in other words, what it would cost a man to build such a plant as is adapted to the needs of the city of Holyoke at a particular time as one gauge or test of the value of this plant.

The CHAIRMAN. How does that affect the market value of this property?

Mr. GREEN. Because we say, in the first place, that this property cannot be worth more than a new plant of proper efficiency and capacity in January, 1898; a very primary proposition that no man would get at the market value of this property, which, in other words, is the amount that a purchaser could afford to pay for it, by taking up each building, item by item, and depreciating on account of age and use; that he would have

to study the proposition as a whole and determine between two propositions, first, if he did not buy, what it would cost him to build, and what he thought he ought to have there as compared with what they have there—what they ought to have there as compared with what they have there, and what it would cost them to have what he thought they ought to have there, what it would cost to bring this plant up to the efficiency and capacity of what they ought to have, and all the other factors which have been alluded to. It seems to us that we have a right in that connection to show by design what we consider the needs and demands of the city were at that time as a test or gauge upon what they have there.

The CHAIRMAN. What do you say to that, Mr. Brooks and Mr. Goulding?

Mr. GOULDING. I will say what little I have to say about it very briefly at the present time. It seems to me that that proposition which has been exploited in the opening and which we have heard of in the course of this hearing, rests primarily upon one egregious fallacy. It is the fallacy of not understanding what the question is before this tribunal. The question is not at all whether on the whole the city ought or ought not to purchase this plant at its market value. If it were, if it were a question before the council of the city, and the question came up where the city had the choice to purchase or let it alone, was going into the gas lighting business and electric lighting,—gas lighting business we are talking about now,—and could purchase this property at its market value or could not, or leave it alone, as it saw fit, then it might be a very interesting question to see whether they could not build somewhere on earth or off of the earth a plant which would be better than this, or as good as this, and would cost less than the market value of this plant. Then this evidence would be important before such a tribunal as that, or before such a body, that was deciding such a question as that. I understand that it means that somewhere on land or on sea, in the earth or air, the gentleman has imagined the construction of a plant. I may go further, and concede that on some piece of land which he can point out within the city of Holyoke he could build such a plant, but that is not the question. The city has no choice in this matter now. They have deliberately elected to

purchase this plant under this statute at its fair market value. Now, no evidence with regard to the value of any other plant is competent as bearing on the question of the market value of this plant except sales, sales alone. In the first place, the cost of reproducing this plant would not, as our courts have decided, ordinarily be evidence. It may under some circumstances, but the value of some other plant, whether it be an ideal plant, whether it be a plant which grows out of the imagination and whose fabric is the thoughts of men, or whether it be a plant that exists on the face of the earth, its value is not material on the value of the property in question at all unless its value is disclosed by a sale. Is not that so? You can show that other property similarly situated was sold for a certain price, but you cannot bring in an expert to show that certain property similarly situated is of a certain value in the expert's opinion, not at all. You cannot say, What do you think, Mr. Witness, such and such a plant, plants A, B, C, D, E, are worth; what do you think they are worth? You cannot put in such evidence as that. You can put in sales of those plants. Now, how does it help the matter that the plant that he is seeking to compare ours with and value is a perfectly ideal thing, that is to say, it is conceived in the imagination, it is the concept of the thought? That is the question that is asked, what with reference—in the first place, the question now before us is, what sort of a plant the city of Holyoke needs. Now, what bearing has that on the market value? If it was the question of what is it worth to the city, if it was such a question as that, what is such a property as this worth, not the market value, but what is it worth to the city then, then there might be some bearing. I don't think this evidence would be competent, but you might show the value of some existing plant. It is not that, may it please your Honors; it is the market value of this property, and I take it that we must be governed by competent evidence, and attempting to compare it, compare it with the value of something else, is not admissible at all. This is a subject that opens out to some extent, and I do not now attempt to argue it in full, but I put the fundamental proposition to you that you cannot put in the value of other property except as shown by sales, and then it is the sales that you can show.

The CHAIRMAN. The trouble about that, Mr. Goulding, is that we are proceeding in this case on the question of cost.

Mr. GOULDING. What say?

The CHAIRMAN. We have proceeded on the question of cost. Your case has gone in on the cost of reproduction,—

Mr. GOULDING. I beg your Honor's pardon.

The CHAIRMAN. —or else I am very much mistaken if your witnesses have not testified with reference to that as to the different parts of the premises. Of course my recollection may be at fault. They have testified as to the cost of brick by the thousand, and as to this thing and that. I do not know that that makes any difference in practice, but I think you have gone on that theory in this case.

Mr. GOULDING. We have undertaken to show the reproductive cost of this particular property, undoubtedly.

The CHAIRMAN. Yes.

Mr. GOULDING. But that has nothing to do with the showing of the reproductive cost of some property which the imagination has created.

The CHAIRMAN. I did not say it has, but where you use cost—I was only suggesting where you use cost—then the question of similar sales may differ a little with reference to that.

Mr. GOULDING. Perhaps I don't understand. The fact that we have undertaken to show, and have offered evidence tending to show, the reproductive cost of this particular plant,—I am not aware that that opens the door to evidence with regard to the cost of other plants that never were built which might be built. I don't think it touches the question of the competency of this evidence.

The CHAIRMAN. I started out to try to agree with you with reference to the sale of property, and the understanding is that we are to put it on the fair market basis. You produce some information that a plant of this kind that we are trying to dispose of between us can be got up a great deal cheaper than this one. Does not that have some pertinency on the question of the fair value of the property?

Mr. GOULDING. With great respect, and even reverence, I suggest that it is not competent evidence what some other plant, something like this, will cost. It is not competent evidence, and never was in this State, but I need not go so far as that. If they had any plant similar to this which was constructed

somewhere, and offered to show what that plant cost, then that would be within your Honor's suggestion, or even a plant like this constructed there. I have not objected to such evidence as that. What I am now dealing with is another plant—another plant—and the question is, What does the city of Holyoke need? I don't care what the city of Holyoke needs; the city of Holyoke has gone into this thing voluntarily. They undertake to come in here and claim that they have been dragged in here. They have not been dragged in here at all; they have come in here under the law.

Mr. GREEN. Will you pardon me a moment? You misunderstood me as to one thing I said, when I said the "needs" of the city of Holyoke. I meant, not simply what the city of Holyoke as a corporate body needed, in the sense of wanting to buy or purchase, but what the demands of the inhabitants of Holyoke require as a system for making and distributing gas to them, that is, what was adapted to the size and capacity of the city.

The CHAIRMAN. I would like to ask you, Mr. Green, if Mr. Goulding will let me interrupt him: You have a witness here who has testified that the market value of this property was \$213,000. Now, what good would this evidence do you after that?

Mr. GREEN. This evidence is good in this way: that it explains the reasons which have led him to adopt that result.

Mr. GOULDING. Now, if he had asked that question, what his reasons were for that opinion, while I should contend, and propose to contend at the close, that such evidence as that, as I have indicated, on the schedule should be laid out, I should expect your Honors to admit it as a reason, and I should not object very much to its going in, because it shows the absurdity of his opinion.

The CHAIRMAN. Have you any objection to putting it in that way?

Mr. GREEN. That is the way we have been putting it.

Mr. GOULDING. You have been asking him a question that is independent entirely. If you ask him his reasons, I do not object.

Mr. MATTHEWS. We ask the Court to let this evidence in, Mr. Chairman, not only as one of the data which this witness has

used in forming his opinion on the fair market value of the present property, but also as an independent test of value.

Mr. COTTER. Why don't you reach that result, Mr. Matthews, by the witness stating the grounds of the opinion he expresses here when he puts the value upon it?

Mr. MATTHEWS. Then we also wish to put in the cost of specifications, plans, designs of a new commercial plant such as would be built according to the best current commercial practice, in January, 1898, in the city of Holyoke for the purpose of manufacturing and distributing gas in that community, as an independent element or test in the valuation, for the purpose, first, of showing in what particulars the present plan is defective with respect to economy of operation and efficiency of service, and then for the purpose of showing what the cost of such, not an ideal, but good commercial plant would be. Our theory is that we are to gauge the market value of this property, not its value. The word "market" is used in this act, and as we all know, "market value" is not necessarily the value. Market value means what a purchaser would pay, nothing more than that, and what would a purchaser pay for any plant in existence? Evidently the maximum sum that he would pay would be the cost of a proper plant, suited to the needs of the community, built according to the best standard and designs of commercial practice. You there get a standard or gauge or test of value, which is the highest maximum amount that the Company could recover in this proceeding if it possessed that ideal organization and plant which our brother speaks of; and therefore we ask to have this evidence admitted as an independent, self-supporting test of value, not conclusive, by any means, but equally worthy of consideration with the reproductive cost of the present plant, which is all the evidence that this Commission has yet heard on the other side,—a superior test to that of reproductive cost. Reproductive cost, if your Honors please, when you are considering what a man would pay for the plant as a whole, would be an excellent test of value, the best conceivable if the plant were new, just built, just connected, in active operation, but consisting of buildings and machinery of a wholly up-to-date character. Reproductive cost under those circumstances, if the land were well adapted and not too expensive for the business, and if the build-

ings and machinery were of the character I have indicated, would be the best conceivable test of value, but that is not this case. This plant was begun half a century ago—over fifty years ago. Some of those buildings which you are asked to value were built in 1850. Some of the mains were laid in the streets of Holyoke prior to 1850, as we shall show; and the present plant, therefore, is the growth of half a century of experimentation, of failures, of improvements, of additions, and you are asked to value that, and all the evidence that these gentlemen on the other side furnish you is the testimony of experts as to what it would cost to reproduce today that identical plant, item by item; and they ask you to do it all together, and then call that the market value of the whole for the purposes of its use. The theory of reproductive cost, if your Honor please, which is all the theory we have heard of from the other side, as applied to a case like this, is, to quote the language of my brother, an egregious error. It has nothing to do with the case. It is admissible, doubtless, because you cannot show actual sales of property like this. Nobody ever bought or sold an organization under circumstances like this. The Company cannot show any actual sales, and we cannot; nobody can. Under those circumstances the Court must do the best it can with what has been stated about any reproductive cost, which we admit would be a fair test of value if the plant were relatively a new one, and probably legally admissible evidence, no matter what the age of the plant is, for what it might be worth to you, but you, if your Honors please, must put yourselves in the position of a prospective purchaser of this property, not a man who is trying to crowd the Company out of its plant and property, but, as our court says, in the position of a willing purchaser, a man who was willing to purchase at a fair price,—what could he fairly pay for this plant for the purpose of manufacturing and distributing gas in Holyoke? That is the question. The answer to that question is, the fair market value of the property, and in getting that, the first thing you do, if you found a plant fifty years of age in part, and in no part new, would be to ascertain the maximum value to put a proper gas works in the city of Holyoke. So that while we think this witness has very properly taken into account the cost of new works as one of the data used in forming his opinion, we also insist that the plans, designs, con-

struction, specifications, and cost of such a plant as we understand Mr. Davis has drawn out and estimated, is admissible in this case as an independent test, measure or evidence of value.

The CHAIRMAN. Waiving that question for a minute, Mr. Green, why cannot you put this question to the witness, having asked him the market value, ask him for his reasons, and then go forward on this other proposition?

Mr. GREEN. I had asked him the data that he used in forming the above opinion. In my mind, I am free to say that that was equivalent, as far as I have gone, to asking him for the reasons that had influenced him in forming that opinion.

The CHAIRMAN. I did not understand it myself.

Mr. GREEN. As far as I had gone.

Mr. GOULDING. I do not understand that they are satisfied with that.

Mr. GREEN. We shall not be later, but as far as we have gone.

Mr. COTTER. That question you want to object to for the reason expressed?

Mr. GOULDING. I did not propose strenuously to object to the question as to his reasons, when he was asked what his reasons were, even if he brought in this—what I regard as a fairy story.

Mr. COTTER. If he brings in an improper reason, that is not quite legitimate to the question. Nevertheless, the Commissioners will endeavor not to give it any weight.

Mr. GOULDING. Then, saving the right to discuss the question of its propriety and value as a reason, why, I am not going to interpose now and discuss the main question, but I shall when the evidence is offered as an independent piece of evidence, as it was here; of course I shall object to it.

The CHAIRMAN. I simply desire to make this statement on my own account. I asked you this, Mr. Green, how this was of any use to you if the witness had already stated the value. Thereupon you said that this was one of the reasons that entered into that belief.

Mr. GREEN. Yes, sir. •

The CHAIRMAN. Now, until we can clear up that subject it does not seem to me that this other testimony becomes of any value, because the witness has not said so.



Mr. COTTER. As another member, I take that view.

Mr. GREEN. I asked him what data he had taken into consideration.

The CHAIRMAN. I did not so understand it.

Mr. GREEN. Now, if you will pardon me, I did, and I was simply following that line. I will go back and have it read if necessary. The witness went on and stated that he went all over the present plant and considered it, and then he made a plan and specifications for new work. That was the data. Now, relative to that, it is simply getting at, as far as I have gone, what he put in his plans and specifications that he used in order to aid him in getting at this result. It was for that purpose that I put the form of questions that I did.

The CHAIRMAN. What result do you refer to?

Mr. GREEN. The result of \$213,000.

The CHAIRMAN. Now, it is not a difficult thing to ask the witness this question, what the reasons are that make him conclude that this property was worth in the market \$213,000.

Mr. GREEN. We are taking this up, as I understand now, first of all, on just that very point. He has given as his opinion \$213,000. I will ask him, if you wish, the question, using the word "reasons" instead of "data," but I used "data," as to what facts he took.

Mr. BROOKS. I would like to have that question read.

(The question, "Whether or not in your opinion the plant that you have designed was such a plant as a practical man would construct if constructing a plant anew in the city of Holyoke in January, '98," was read.)

The CHAIRMAN. Was that question answered?

Mr. BROOKS. That question was under our objection then, and the next one.

The CHAIRMAN. We are getting decidedly mixed on nothing. It is so easy to ask this witness his reasons for the market value, and until that is done I certainly, as one of the Commission, will not enter into this question of an independent plant.

Mr. GREEN. I will just straighten out what I said in the first place to show your Honors, and then I will come at this question.

The CHAIRMAN. I should think, Mr. Green, that you could put that question without cleaning up anything.

Q. Mr. Davis, to go back, what reasons did you take into consideration in getting this,—have you got your schedule?

Mr. GOULDING. Saving our right to discuss the matter at the close, we will not press any objection to that.

The CHAIRMAN. Very well.

Q. Getting at your value of \$213,570.73, to go back. A. How I made it up?

Q. That is, what reasons you took into consideration? Some question has been raised as to this question in the past.

A. I get at the value, the worth of the property, by taking the buildings and machinery and the street work—

Mr. BROOKS. A little louder, Mr. Davis.

The CHAIRMAN. We cannot hear you, Mr. Davis.

The WITNESS. I took those to get at the value of that property, what I considered it worth.

Q. Yes. Whether or not you went to Holyoke? A. I went to Holyoke, yes, sir, and took dimensions of all the buildings and all the machinery; I was there three or four times.

Q. Then, having done that, what else? A. Then I reckoned up what I considered the value of each piece of property that I found there.

Q. What did you do besides that? A. I took the streets that I found there, and then I assumed the plan of making a new set, the specifications and value of a new set of works, to compare the cost and the capacity of the two works.

Q. You say to compare the cost and capacity. Did you consider then the relative capacity between the two works? A. Well, yes.

Q. And then what else did you consider? A. Then I considered the value of the new plant, the value of the old plant, not in use.

Q. That is, your new plant, as I understand, is not in use, and you considered the old as compared with the new not in use? A. Yes, sir.

Q. But whether or not you considered any changes it would be necessary to make in the present plant to bring it up? A. I made an estimate of the cost of the changes that would be required to bring the capacity of the old plant near the capacity of the new.

Mr. COTTER. By the new plant do we understand that is some plant that is in existence, or one that is not?

Mr. GREEN. By "new plant" he simply means such plant as he could build if he did not buy.

Q. By "new plant" I understand you mean such plant as you could build if you did not buy? A. Yes, sir.

Q. Or a plant you would build if you did not buy. Did you take into consideration at all the question of land? A. No, sir. My propositions were made exclusive of land in both cases, the new and old works; but I did call thirteen thousand, the cost of the land for the new works which I got the cost of, fifteen cents per foot.

Q. You took all these into consideration, as I understand, and then arrived at your value of \$213,570.73. A. Yes, sir.

Q. Exclusive of land, or assuming the value of the land? A. I assumed the value of one property on the land with the other, the same.

Q. You told us that one of the reasons for this opinion was the fact that you drew or made plans and specifications for new works that you could build if you didn't buy. Have you these plans and specifications here, showing what you outlined? A. Yes, sir.

Q. Where are they, please? (The plans were produced.) A. Those are the ones.

Q. Whether or not these are the plans you prepared? A. Those are the plans I prepared.

Q. First of all will you tell us, describe as well as you can, where it was that you considered that you could place that plant?

Mr. BROOKS. Do I understand you offer these plans now?

Mr. GREEN. Yes, sir, I am going to.

Mr. COTTER. It is part of his reasons, and you can rely upon the Commission not giving them weight unless they are competent.

Mr. BROOKS. This amounts to just the same thing. He is putting in the plans of the new building that he says can be erected somewhere at a certain sum—somewhere in Holyoke at a certain sum; and then he says that he arrives at his valuation of the actual structure by taking into consideration and by comparing the actual structure with the plan structure. Now we say

that from the 13th of Metcalf up to the 177th Massachusetts the obtaining of valuations by comparison of actual with actual has been prohibited by the Supreme Court of our Commonwealth, and this amounts to the same thing.

Mr. MATTHEWS. I thought you were complaining that this was not actual but ideal.

Mr. BROOKS. I say our Supreme Court has said you cannot compare the actual with the actual, and can you compare it with what does not exist?

The CHAIRMAN. If there is any difficulty about that, Mr. Brooks, Mr. Cotter suggests that it be called a chalk. I think the plan is perfectly competent myself, but we will call it a chalk.

Mr. COTTER. For the purpose of illustrating and showing up the testimony.

Mr. BROOKS. It really comes in as a part of his reason?

Mr. COTTER. Yes.

Mr. GOULDING. I suppose your Honor means you think it is perfectly competent on the theory that the reasons go in subject to our right to argue whether such facts as those are competent even in support of a reason.

Mr. COTTER. Yes.

Mr. GOULDING. I do not know myself as it makes a great deal of difference whether the plan goes in or stays out, if we had our right to argue in the end that none of that is evidence.

The CHAIRMAN. Gentlemen, I have passed on this question twice before; once in the Worcester case, where the testimony went in and was subsequently excluded. I passed on it in the Gloucester case, where it went in, where a new plan was devised. The effect of this kind of testimony is another question. Whether it is competent or not is very doubtful to me because, as suggested by Mr. Brooks, you cannot compare actual with actual, and it is very difficult to compare actual with ideal. However, it is given as one of the reasons of this witness; and I think, subject to being struck out later upon further examination or admitted later upon further examination, that we had better let this evidence go in.

Mr. MATTHEWS. Does that apply to all the evidence?

The CHAIRMAN. I don't care whether you call this a chalk or a plan. Does it make any practical difference?

Mr. GOULDING. Since it is a description of something that doesn't exist and never did exist, of course it is in itself the thing—it is the evidence; it is the thought of the witness on paper; you may call it a plan or a chalk.

The CHAIRMAN. We will treat it as a chalk.

Mr. GREEN. I have offered the plans; they may be marked.

(Plans marked from "Exhibit 87, W. L. H." to "Exhibit 104, W. L. H." inclusive.)

Q. And whether or not these are the specifications that you alluded to as being made and used in connection with your reasons for the valuation you gave? A. Yes, I think these are the ones.

Mr. GREEN. Then I offer them.

(Specifications marked "Exhibit 105, W. L. H.")

[EXHIBIT 105.]

## SPECIFICATIONS

OF

APPARATUS FOR PROPOSED NEW GAS WORKS,  
HOLYOKE, MASS.

---

*SPECIFICATIONS OF PROPOSED COAL GAS PLANT FOR  
THE CITY OF HOLYOKE, MASS.*

---

## BENCHES.

## HYDRAULIC MAIN.

The benches to be ten in number, placed back to back, to be of the half-generative type. Each bench to be provided with separate hydraulic main, with 6-in. take-off pipe leading to a 12-in. sub-main as shown.

## BRICK WORK.

The brick work to be built of fire brick throughout, in full accordance with plans shown.

## MOUTH-PIECES.

The mouth-pieces to be 14 in. by 26 in. reduced to 12 in. to 20 in. Stand-pipes to be 7 in. to 6 in. Bridge pipes to be 6 in. diam. Dip pipes to be 6 in. diam. Hydraulic main to be 24 in. diam., provided with necessary water and tar connections. The mouth-pieces to be fitted with a Brenner self-sealing lid.

## BOILERS.

## BOILERS.

In retort house to be placed two Manning upright boilers of 100 horse-power capacity each, together with all steam connections, steam separator, feed water pump and heater, etc., as shown.

## EXHAUSTER PLANT.

## DIMENSIONS.

The exhauster plant will be composed of two Wilbraham gas exhausters, with engine and Huntoon governor on same bed-plate. One exhauster to be used for water gas with 12-in. connections, the other to be used for coal gas with 16-in. connections. The connections for both exhausters to be arranged for by-passing.

## TUBULAR CONDENSERS.

## DIMENSIONS.

- Three tubular condensers to be furnished, each to be 4 ft. diam. by 19 ft. high, fitted with two hundred and fifty-three 2-in. tubes 14 ft. long. The connections for same to be 16 in. in diam., arranged for by-passing as shown. Condensers to be fitted with tar and water connections and drips complete.

## TOWER WASHER.

## DIMENSIONS.

The tower washer to be of cast iron, 4 ft. square by 19 ft. high, fitted with necessary internal water shelves as shown. Proper water and tar connections to be furnished. The connections of same to be of cast iron 16 in. in diam., with by-pass arrangement as shown.

## PURIFIERS.

## DIMENSIONS.

The purifying boxes to be four in number, of cast iron, each 24 ft. by 24 ft. by 4 ft. deep in the clear.

## BOTTOM PLATES, SIDE PLATES.

The bottom plates of same to be  $\frac{3}{4}$  in. thick. Side plates,  $\frac{5}{8}$  in. thick. The bottom and side plates to be joined to each other by flanges  $\frac{3}{4}$  in. thick with planed edge.

## BOXES.

Boxes to be fitted with proper openings for inlet and outlet connections. Each box to be fitted with three layers of best reversible lime trays, with the necessary tray bars and stands for supporting same. The covers for boxes to be of steel plates, and top to be No. 12; those in the side to be No. 10.

## GIRDERS.

Tops of covers well braced by 5 girders, each composed of a 7-in. deck-beam.

## COLUMNS.

The boxes to be supported by 16 cast-iron columns 10 in. in diam., each column to be provided with a levelling plate at its base.

## STEEL BEAMS.

The steel beams which the boxes will rest upon will be 12 in. in depth for the longitudinal beams and 6 in. in depth for the crosswise beams as shown, weighing 45 lbs. and 18 lbs. per foot respectively.

## CONNECTIONS.

The connections for boxes to be of cast iron 16 in. in diam., with flanged and bell ends as shown, provided with 21 16-in. flanged and

wheeled gas valves with outside screw, making it possible to use any combination of boxes.

#### HOISTING CARRIAGE.

The cover to be raised and carried by one hoisting carriage provided with the necessary gearing, screws, sheaves, and chain for operating same.

#### STEEL TRACK.

A steel track to be provided for the wheels of the hoisting carriage to run upon.

#### STATION METER.

##### DIMENSIONS.

The station meter to be 9 ft. in diam. x 9 ft. long, provided with by-pass meter box and 16-in. connections complete.

#### HOLDERS.

##### DIMENSIONS.

• The two holders to be provided, each of a capacity of 250,000 cu. ft., resting in a steel tank above ground.

##### INNER SECTION.

The inner section of each holder to be 84 ft. in diam. by 23 ft. deep, built of proper thickness of plate bar angle iron, etc., to give the required pressure. The lower edge of the inner section to be provided with a hydraulic cup 7 in. in width by 15 in. deep.

##### OUTER SECTION.

The outer section to be 85 ft. 9 in. in diam. by 23 ft. deep.

##### STEEL TANK.

The steel tank in which holder sections will rest to be 88 ft. in diam. by 23 ft. 6 in. deep in the clear.

##### BOTTOM AND SIDE PLATES.

The bottom plates of steel tank to be  $\frac{3}{8}$  in. thick. The side plates to be arranged in four regular courses, breaking joints, and having the vertical seams of alternate courses in line. The bottom course to be  $\frac{3}{8}$  in. thick, the next  $\frac{1}{2}$  in. thick, the third  $\frac{3}{8}$  in., and fourth or top course to be  $\frac{1}{8}$  in. thick.

##### TANK WALK.

Steel tank to be provided with a walk about the top of same, and outer edge of said walk to be fitted with a hand rail as shown.

##### GUIDE FRAME.

The guide frame of each holder to be composed of 10 lattice standards or columns, connected together by two rows of ten girders each. The columns to be steadied in their position by 40 diagonal braces



and 10 wind ties, as shown. The inlet and outlet connections to holder tank to be 16 in. in diam. with flanged ends. These connections to consist of the horizontal and upright pipes, with drips, as shown.

#### CROWN OF HOLDER.

The crown of holder to be supported in its position by a steel support, said support to be composed of 8 stands of 5-in. pipe and 1 stand of 6-in. pipe, connected at their tops with 6-in. steel "I" beams.

#### HAND RAILING.

A hand railing to be placed on the crown of holder; also on the grip, each composed of two rows of  $\frac{3}{4}$ -in. pipe, with necessary stands.

#### STAIRS.

A flight of steel stairs to extend from the ground to the walk at the top of tank. From walk to top of one of the columns, to be provided a lattice of suitable dimensions. All parts in the holder sections to be of steel made expressly for gas holder service: those in the tank to be of a quality known as tank steel.

#### STREET GOVERNOR.

A 16-in. automatic Connelly street governor to be provided with necessary connections arranged for by-passing.

#### COMBINATION TAR AND AMMONIACAL LIQUOR TANK.

A brick tank to be placed in the ground 10 ft. in depth by 30 ft. in diam., for receiving the tar and ammoniacal liquor; a partition to be placed in the middle of same as shown; top of tank to be covered with 3-in. plank supported by steel "I" beams.

#### CONNECTIONS FROM WATER PLANT TO EXHAUSTER.

##### CONNECTIONS.

The connections from water gas plant to relief holder, thence from relief holder back to station meter, and from station meter to the inlet of 12-in. exhauster, as shown upon the plans.

(Omission.)

#### RELIEF HOLDER.

There should be provided one relief holder, with a working capacity of 100,000 cu. ft. Holder to be a single lift resting in a steel tank above ground, tank for same to be 74 ft. in diam. x 25 ft. 4 in. deep. The holder to be 72 ft. in diam. x 26 ft. deep. Inlet and outlet connections to be 12 in. Guide frame to consist of 8 columns of lattice design, 8 lattice girders, 12 diagonal brace angles, and 8 wind ties, all as per drawings.

Q. Mr. Davis, I understand that these are the plans and specifications you used in computing the cost of a plant that you referred to that you would build? A. Yes, sir.

Q. And whether or not in doing this, getting at this cost, you went into it in detail? A. I did.

Q. And made a detailed estimate? A. Yes, sir.

Q. And is that the estimate set out—

Mr. GOULDING. It seems to me this swings off again into questions that seem to be putting in substantive evidence.

The CHAIRMAN. Let him finish the question, please.

Q. —in your schedule beginning with page 38?

The CHAIRMAN. I understand that you are continuing to have him give his reasons.

Mr. GREEN. Yes, sir, that is all.

Mr. GOULDING. How far can counsel construct questions about a man's reason? Is not his question "What are your reasons?" and, "Now give us the detail of your reasons?"

The CHAIRMAN. That is entirely right; the witness ought to be allowed to go ahead and do it in his own way.

Q. You have got the plans and specifications, Mr. Davis. You took these plans and specifications into consideration. What else did you do in connection with it? A. The plans—after I got these up to compare with the old work?

Q. Having got your plans and specifications, what else did you do? You stated a moment ago you got at the cost of them.

A. I got at the cost in detail.

Q. The cost in detail? A. I did, yes, sir.

Q. And is this the cost in detail which is set out in this schedule? A. Yes, sir.

Q. Now, Mr. Davis, will you take the plans and explain to us what they mean, so that we can understand. Take first Exhibit 87. Will you explain this? Tell us what it represents.

A. That represents the retort house.

Q. Which is that, the one marked "Retort House"? A. The one marked retort house.

Q. Now what is the size of that? Is it drawn to scale? A. It is drawn to the scale marked, 73 feet 4 inches by 61 feet 4 in the clear.

Q. What benches have you placed there? A. I placed ten benches of sixes.

Q. What is the capacity of the retort house? A. Ten benches should make half a million.

Q. Cubic feet of gas? A. Yes.

Q. You have here a water gas plant? A. Yes, sir, in here.

Q. That is — A. That building is 51x40 feet, with an annex 21x40, internal measurement.

Q. And what is the capacity of that? A. About 500,000 or 600,000.

Q. So that the total generating capacity is something over 1,000,000? A. Something over 1,000,000, yes, sir.

Q. And the same as the present plant? A. Well, a little more than the present plant.

Q. Does that same plan that you are now using, exhibit 87, show the groundwork of the entire plant? A. Yes, sir.

Q. Have you provided there for a purifying plant? A. Yes, sir.

Q. And of what capacity? A. About 1,000,000.

Q. Have you provided there for a condensing plant? A. Yes, sir.

Q. And of what capacity? A. About 1,000,000.

Q. The dimensions and details are all shown on the plan? A. Yes, sir.

Q. It is drawn to a scale, is it? A. It is drawn to a scale.

Q. What is the scale; is it shown there? A. It is shown; 1-8 inch to 1 foot.

Q. Have you provided for holder capacity? A. Yes.

Q. And for what holder capacity? A. A little over 600,000; about 650,000.

Q. And how many holders? A. Wait a minute. (Examining plan.) 600,000. Three holders.

Q. How have you considered these, as all being on one piece of land, or separated? A. One piece of land, yes, sir; the land that I took my dimensions from; the land that I chose for this purpose.

Q. Now, as illustrating your ideas of the new plant, are these shown in detail in the other blue prints that are in your exhibit? Are the holders and all the rest — A. Different parts.

Q. — different parts, shown in detail? A. Different elevations, yes, sir.

Q. With sizes? A. Yes, sir. The sizes are all given, and the dimensions; the capacity of the holders and the capacity of the work—the purifiers, condensers, exhausters.

Q. Then, as I understand—now how does this compare in capacity, say, first of all, with the present plant? We have spoken of the generating capacity; take the purifying capacity.

A. The generating capacity is about the same; this is a little—say 50,000—less than the old. The purifiers, about 550,000 more; I reckoned the old purifiers 450,000; this will run up to 1,000,000, sure. The condensing capacity is about double.

Q. That is, the present plant is how much? You say the condensing capacity of this is about double the old plant? A. About double, yes. This is about 1,000,000; that would be 500,000.

Q. How about the purifying capacity? A. The purifying capacity is 550,000 more—or this is more than the old.

Q. This is a little more than the Company's works? A. Yes.

Mr. GOULDING. The purifying capacity, you say?

Mr. GREEN. Of this.

Mr. GOULDING. I got that 500,000; am I wrong about that?

The WITNESS. The new or the old?

Mr. GOULDING. The new.

The WITNESS. The new is 1,000,000.

Mr. BROOKS. 500,000 more, I understand.

The WITNESS. About 550,000 more.

Q. Now, how about the holder capacity? A. The new holder capacity is 600,000; I think the other is about the same.

Q. The what? A. The other is about the same; about the same capacity.

By Mr. BROOKS.

Q. You mean by "the other" that the old and the ideal have the same holding capacity? A. Yes, about the same.

By Mr. GREEN.

Q. Do you mean that? What is the holder capacity of the old works? See just what you mean. A. 600,000 is the figure I had in mind.

Q. The Company's works in Holyoke? A. Yes, sir, the capacity of the present works.

Q. What is the capacity of your works? A. 600,000; about the same, I think.

Q. If you will look up the holder capacity of the old works — A. I won't be sure now about the holder capacity.

Q. Never mind now, Mr. Davis, but this noon look it up and have the holder capacity of the old works. You spoke of mains, as I recall it. Did you consider what mains could be built anew for? A. Yes, sir. I have them in detail if you would like.

Q. Now, out of all these factors, you got at a price that you thought you could build a work for, which you used in getting at that value of \$200,000 that you mentioned. Now, how did you figure it up? How did you get at this factor that you so used, the cost of your new works? A. The cost of the old works you have reference to?

Q. No, I say, how, in getting at the amount that it would cost you to build these new works, how did you go at it? Did you go at it in detail? A. I got at it in detail, each part separate by itself; bench work, buildings, holders, exhausters, purifiers, steam governors and street mains, all figured up by themselves.

Mr. GOULDING. Do I understand this correctly, that those are shown on page 38 and following?

Mr. GREEN. Yes, to page 61—are they not, Mr. Davis?

Mr. BROOKS. 38 to 61 of the schedule of valuation?

Mr. GREEN. Yes.

Mr. GOULDING. Of the new plant.

Q. The total is represented on page 61, is it, of the schedule, if you will show us? A. Page 61. Recapitulation of the different—

Q. What does that \$255,114.81 represent? A. That is the cost of this new work,—street mains, buildings,—exclusive of the land.

Q. You spoke of having compared mains that you could put down with mains that were there in getting at this value. How do the mains that you have considered in this proposition compare with the mains that are there? A. Street mains, you want? I have got the comparison, if that is what you want, in my book here, which you have.

Q. What is that? A. The comparison, you want?

Q. Yes. A. The new work, mains, 171,000 feet, running from 16 inch to 3 inch. The dimensions are different.

By Mr. BROOKS.

Q. Just let me have that once more. 166,000? A. No, 171,000 feet.

By the CHAIRMAN.

Q. Running from 16 inch to what? A. Running from 16 inch to 3 inch.

By Mr. GREEN.

Q. You have tabulated that comparison on page 63? Well, never mind.

Mr. BROOKS. Page 63 of what?

Mr. GREEN. Of the schedule that is now offered.

The CHAIRMAN. Then is there any occasion for him to read those things?

Mr. GREEN. Sir?

The CHAIRMAN. If it is tabulated, is there any occasion for him to read them?

Mr. GREEN. One point it is necessary to bring out, if your Honor please.

Q. Will you explain why you have so much of 16 and 12 and 10 inch mains—large mains?

Mr. BROOKS. In what, in the new proposition?

Mr. GREEN. Yes.

A. I thought the leads ought to be from the works larger mains running out through the centre of the city, and then lead with smaller pipes from the main pipe.

Q. What would you say in that connection of the system of mains that is there now, that the Water Power Company have?

A. Well, there is a great amount of very small pipe there.

Q. . Yes. A. The 15 inch is the largest, and but very little of that—440 feet; not a great deal of 12 inch—475 feet more than I have got on the new. But in all, the old works have 168,487 feet, and over 20,000 feet of that is under 3 inch pipe.

Q. How much? A. Under three inch—

Q. How much did you say of that was under 3 inch? A. 22,000 and something.

Q. Well, it is to be computed. You need not stop to do it. But without stopping to compute the number of feet of small sized main, what do you argue from the amount of small sized main? What inference do you draw from it?

Mr. BROOKS. Wait a minute. I object to it.

Mr. GREEN. That is criticism of the present plant.

The CHAIRMAN. You have a right to criticise the present plant. Perhaps your phraseology is not exactly happy.

(Question read.)

Mr. BROOKS. I will waive my objection.

The CHAIRMAN. Go on and answer, Mr. Witness.

The WITNESS. I don't think I quite understand your meaning.

The CHAIRMAN. He wants to know what you think of the small main.

The WITNESS. What I think of that?

The CHAIRMAN. Yes.

The WITNESS. Is that what you mean?

Q. Yes, sir, what do you think of the small sized main? A. I don't think they ought to be there.

Q. Why not? A. They are too small.

Q. Why are they too small, and what effect does their smallness give? A. A good deal of this is—over 12,000 feet is wrought iron, which will rot out or rust out in a series of years. I don't know how long they have been down.

Mr. BROOKS. A little louder.

Mr. GOULDING. He answered that being wrought iron, they would rot out.

The WITNESS. Rust out, sir, not rot.

Q. What else have you to say, if anything, about them? A. Small pipes are not so good in the ground as large pipes, and gas companies are laying—and I am—larger pipes than we used to years ago.

Q. Why are the small pipes not so good, Mr. Davis? A. Well, they are not so easy to tap in the street; they are more likely to break.

By Mr. BROOKS.

Q. Not so easily what?—adapted? A. To tap—for service pipes.

Mr. BROOKS. Oh, yes.

The WITNESS. And the leakage would be about the same on a large pipe, I suppose; not very much difference per mile.

The CHAIRMAN. You need not put another question; Mr. Turner has to go.

Mr. GREEN. Very well.

(Recess to 2 P. M.)



### AFTERNOON SESSION.

---

The CHAIRMAN. Mr. Green, here is a question that I think you agree ought to be struck out. We directed the stenographer to make it read, "Have you, as a practical man," and he has left it as it was. It becomes of no use, any way. (To the stenographer.) You may strike that question out.

Mr. GREEN. You let in "Have you as a practical man"?

The CHAIRMAN. No, I do not think the question was left in at all, but afterwards he began to give his reasons, so that was all obviated.

(The question referred to was: "Whether or not, in your opinion, the plant that you have designed was such a plant as a practical man would construct if constructing a plant anew in the city of Holyoke in January, 1898?")

The CHAIRMAN. You took an exception to that question, Mr. Goulding. We have struck it out, question and answer.

Mr. GOULDING. Struck the question and answer out?

The CHAIRMAN. Yes.

Mr. GREEN. In dealing with this question, while we do not raise any question now, we may come to the same point a little later. At present we do not demur.

Mr. MATTHEWS. That is not finally excluded, is it?

Mr. GREEN. It is excluded now, I understand.

Mr. COTTER. Yes, I so understand it.

Mr. MATTHEWS. I should like an opportunity to argue it before it is finally disposed of. We may put the question later.

The CHAIRMAN. You had better put it later. Certainly it becomes of no materiality now.

Mr. MATTHEWS. May we be informed of the reasons why it is excluded?

The CHAIRMAN. In the first place, we were diverted from the point, the witness going to the reasons for his opinion, and we departed from the question of its introduction as a substantive

statement, inasmuch as we had not reached that point. The effect of that question was, it asked him whether it was such a plant as a practical man would construct, and Mr. Cotter thought that would affect its competency, as it called for the opinion of somebody else. The way I supposed the question was finally put was, "Would you, as a practical man."

Mr. GREEN. I understood that it was corrected to that form afterwards.

The CHAIRMAN. So did I, but the stenographer did not so get it, and we will take it up later.

**FREDERICK J. DAVIS, *direct examination resumed.***

The last two questions and answers were read by the stenographer.

By Mr. GREEN.

Q. Anything further you wish to add to that, Mr. Davis? A. No.

Q. You say that the holder capacity that you have considered is 640,000 feet, as compared with 325,000 in the old works? A. 600,000, I think; as I figure up on the plan, I see it is about 600,000.

Q. In your plant? A. Yes.

Q. As compared with 325,000 feet in the works of the Company.

Mr. BROOKS. I understood him to say that they were about the same.

Mr. GREEN. Well, he did say so, but the question, I suppose, is the fact.

The WITNESS. That was in my mind, 650,000, but come to take the dimensions here, it is only 600,000, instead of 650,000.

Q. 600,000 instead of 650,000? A. 600,000. If I said 650,000 it is really 600,000.

Q. Why did you take the holder capacity of 600,000 feet for the purpose of your comparison? A. Well, we can run 1,000,000 capacity through 600,000 feet very comfortably, with water gas and coal gas combined.

Q. Then that is to put your plant on the million basis? A.

On that piece of land, I could not put on any more holder capacity.

Mr. BROOKS. I understand, may it please your Honor, that our exception is saved to all this line of inquiry.

The CHAIRMAN. Yes.

Q. Why, for the purposes of your comparison, did you take a plant—let us go back to the beginning—of 1,000,000 feet capacity for your new works? A. I thought that would be what the company would—ought to build if they were building new for the present, and for the increase for a few years that they might have, so I started on the 1,000,000 feet plan. A part of the old works was nearly 1,000,000—the generating portion, the water plant and the retort make nearly 1,000,000, not quite; and I carried out the condensers and the purifiers and those things to that point—to the million point.

Q. I notice on page 65 of the schedule that you have submitted you have made a memorandum of changes in the present plant necessary to make its capacity equal to that of the new plant. A. Yes, I have done that.

Q. The first item is, "One new holder, \$30,000." What does that represent? A. That represents a holder about 300,000 feet capacity.

Q. You are familiar with the site of the present Water Power plant. Whether or not such a holder could be put on that site? A. No, it could not.

Q. It would be built away from the works? A. It would have to be built away from the works.

Q. Are there any advantages or disadvantages in having holders away from the works? A. Well, there are disadvantages.

Q. There are what? A. Disadvantages, unless you have very small pipes. With small pipes you are obliged sometimes to build holders away from the works to get the required pressure through the town.

Q. What are the disadvantages in having them away from the works? A. In case you have small pipe in the mains, street mains—

Q. Pardon me. Supposing that your system of mains is of such size that it is not necessary, in order to fill out the main sys-

tem, to have it away from the works, what are the disadvantages in itself of having holders away from the works? A. Oh, there is keeping them hot—keeping them from freezing in the winter ; and they are a good deal more care away from the works than at the works.

Q. Whether or not that care affects the expense of running?

A. Oh, it makes it some more expensive, of course.

Q. Your next item relates to enlarging the capacity of the purifiers. What is your reason for that? A. To bring it up to the capacity, or about the capacity, of the new work, a million feet.

Q. What have you to say in regard to any necessity for enlarging the present purifying plant of the Water Power Company? A. Well, you are increasing, I see, at the rate of about 8 per cent., and in three or four years you will have outgrown your present purifiers.

Q. Then what would be necessary in your opinion to do to them? A. Either build new purifiers or enlarge the present purifiers ; they could be enlarged.

Q. Which, if opportunities were equal, that is, if there were plenty of space, would be better, to rebuild or to enlarge? A. It would be cheaper to enlarge, but of course it would be better to rebuild and make your pipes larger. In rebuilding, adding to the old works, the same connections—the purifying connections would be the same ; you would simply enlarge the boxes.

Q. What was your idea in regard to enlarging them? How did you expect to enlarge the present work? A. To make what we call a double box ; use the present box for one and build on to that for a double section, bringing the gas in the inlet to the centre and working up and down, which would make what we call a double box.

Q. Why do you increase the capacity in that way, by making double boxes? A. Well, for the reason that we haven't land to increase them at the present works.

Q. If the land was larger in extent and you had more opportunities for extension of your buildings, what then would be your method? A. Oh, I should build new purifiers.

Q. Why would it be better to have new purifiers than to have these enlarged? A. You would have your connections larger, and large purifiers are better than small ones.

Q. Whether in your opinion it will be necessary in the near future to enlarge the holder capacity of the present works? A. Well, I should think very soon, within two or three years. You are running up now beyond the capacity of your holders; that is, you were last year; in 1898 you were running above your capacity of holders.

Q. Your next item relates to a condenser. Why have you considered that proposition of putting in a new condenser? A. The same as with the holder and purifiers. You will very soon outgrow the capacity of your present condenser, and putting in another one just like that would double the capacity.

Q. You estimate it at \$1800. Is that in your opinion what it would cost? A. What a new one would cost.

Q. And that sum applies to the item of \$30,000 for a new holder and \$6500 for enlarging the purifier plans? A. Yes.

Q. Your next item relates to refitting the bench. Why have you estimated that? A. They have but nine benches in use that they can use. They have another arch, but not fitted with the retorts and iron work, none of it; and that would give them an increase of about fifty thousand a day, by having that extra retort, which would bring the capacity up to fully a million.

Q. And by adding that, refitting that bench, what would the bench capacity—if that is a proper term—or how would the bench capacity of the Water Power Company's plant compare with that which you have considered? A. It would be about the same; it would be the same in number of benches.

Q. You speak in general terms of other improvements, in the next item, \$3000. Will you explain that? A. Well, your exhausters would want to be enlarged, and I think the standard scrubber would want some enlargement, and quite a number of things through the works too numerous to mention; and I made that as an estimate about the cost which would be expended there, or might be, not going into detail of just what it would have to be there, or want to be there.

Q. As I understand, it is part of the improvement that would take place in the items of the enlarging of the condensing and purifying plant? A. Yes, whatever is necessary.

Q. Your final item in this memorandum is repairing and re-laying mains, Mr. Davis. Will you explain that item of \$15,000?

A. Why, the mains are leaking very badly, the percentage is very large, and it must be owing to heavy leakage, and a good many of the small pipes will have to be enlarged, replaced, and I thought \$15,000 wouldn't be any too much money than ought to be expended on the streets.

Q. The total of these items, Mr. Davis, is what? A. \$57,300.

Q. What in your opinion would a purchaser be obliged to do to the present plant, if anything, in the near future, in the way of changes?

Mr. GOULDING. That seems to be an independent question.

The CHAIRMAN. Hasn't he answered that question, practically, by saying these different things? If he has not, you may put it.

Mr. GREEN. I desire to put it, to save any possible question.

The CHAIRMAN. Let us hear what the question is.

(The question was read by the stenographer.)

The CHAIRMAN. We will admit that.

Mr. GOULDING. We object.

Mr. BROOKS. You will save our exception.

The CHAIRMAN. Yes.

The WITNESS. I think I have answered that.

Q. Then your answers as applying to schedule 4 refer to changes which you believe a purchaser would have to make in the near future? A. Yes, that was the answer to that question.

Q. That is, if I interpret this aright, in your opinion this would have to be brought in the near future to a million feet basis? A. Within a few years, yes. No doubt but they could run for a time as they are running now and supply their demand, but with very much of an increase they would have to make some enlargement in their works.

Mr. MATTHEWS. Do I understand, Brother Green, that the enlargements the cost of which he says will be \$57,300 are the additions which a purchaser would have to make to the plant?

Mr. GREEN. I understand he says so.

Mr. BROOKS. If it is, we want to save our exception to that question and the answer.

The CHAIRMAN. That is merely conversation between counsel.

Q. Now, Mr. Davis, turning to page 66 of your schedule in regard to the question of land, in considering the proposition of building a plant, where did you consider that you would build it in Holyoke? A. I should build on this land which I have used for my new works.

Q. Did you go there, to that piece of land, with anybody? A. I did.

Q. Who? A. With Mr. Kirkpatrick. We drove down. I think I went there twice or three times.

Q. Does that piece of land,—we will identify this further later, I simply want to get the land identified near enough to carry it forward—that pertains at the present time to the city of Holyoke?

Mr. BROOKS. Wait a minute. How does he know anything about it?

Mr. GREEN. Simply as a matter of identification.

The CHAIRMAN. He says he went with Mr. Kirkpatrick; if there is any trouble about it you can let Mr. Kirkpatrick testify.

Mr. GREEN. Very well.

Q. On this map, or plan rather, it is described as bounded on Berkshire street 260 feet, and on the other, Race street, 340 feet.

A. On Germania street 260 feet.

Q. What should you say of the suitability of this piece of land for a gas works as compared with the present location?

Mr. BROOKS. We object to it.

The CHAIRMAN. Is that part of your theory, Mr. Green?

Mr. GREEN. Yes, sir.

The CHAIRMAN. I should like to hear you gentlemen on that.

Mr. GREEN. This property is to be valued for the purposes of its use.

The CHAIRMAN. What property?

Mr. GREEN. The property of the Water Power Company, the property that you are to value. You have got to determine what it is worth as one element, for the purpose of its use. Another element that you must determine is what it is worth, perhaps, for any other purpose. Now for the purpose of its use it cannot be worth any more than other land relatively situated, and I wish to show by this witness simply that he had selected a piece

of land as suitable for the purpose of a gas works as the location where they now are.

The CHAIRMAN. I should like to ask the counsel, Mr. Brooks and Mr. Goulding: As I understand, Mr. Green's proposition is to show that there is another available piece of land in Holyoke and as bearing on the question of the value of the use of this particular land, that is to say, his purpose is to meet any claim that you had that this particular piece of land where your gas works stand has a special value in itself for a gas plant. That is the way I understand his explanation. Why is it not competent?

Mr. GOULDING. I should like to know how it is competent, how it is competent to show the relative value of another piece of land. Is it not collateral? Does it not introduce as many cases as there are witnesses to testify to it? It is a matter of dispute. Who ever heard, upon the valuation of a piece of land before this case, that it was proper to show that there is another piece of land worth just as much for the use that that is put to, not that it has been sold, but that it is worth just as much—

The CHAIRMAN. Just as available—just as available, as I understand it.

Mr. GREEN. Suitable.

The CHAIRMAN. What was the question exactly?

Mr. MATTHEWS. Suitable.

Mr. GOULDING. Just as suitable.

(The question, "What should you say of the suitability of this piece of land for a gas works as compared with the present location," was read by the Stenographer.)

Mr. GOULDING. That is a little more objectionable than the proposition I was arguing. Available? What does the word mean? I know what it means when we speak of a candidate for some office, but "available"—it is available—what has that to do with the value of our works that another piece of land is available? If you had said that there is another piece of land something like that that was available, I might see some ground and natural reason for saying that is evidence, but he cannot testify to this for the simple reason that it introduces collateral issues. To say it is as available as ours, you might as well say it is as handsome as ours, or anything else. I submit that that goes off



into the clouds where you cannot possibly find any measure that would bring it within the rules of evidence.

Mr. COTTER. We are inclined, gentlemen, to admit this evidence for the purpose of showing that yours was not the only lot of land that was suitable for this site. If Mr. Green wished to show that there were other lots that were suitable, I think that that might have some tendency to show the value of this lot in question. If yours was the only lot of land in Holyoke that was suitable for this purpose, that might well lay the foundation for quite an advanced value. If there were other lots equally advantageous we think it is evidence that may be considered, that is all. Of course the weight to be given to it is something we must pass upon later.

Mr. GOULDING. The trouble about it is, your Honor, you will have got the opinion of an expert in here about availability. It might as well be in about beauty or any other quality. If it was to show that there was a piece of land of certain dimensions in a certain location—as a matter of fact, we will show it to your Honors—

Mr. COTTER. In the case of water rights, if one person had a monopoly of that, you might perhaps say that that would be a circumstance to be considered. We do not mean to say that it is decisive, neither do we express any opinion as to the weight to be given to it, but we think that is a circumstance and within some of the evidence already given as to where property is located, as it is located, and how it is located. The expert might well take into consideration that this is the only site or the only property that is available. If there were a number of other lots equally available, we think it is a circumstance that might be considered. Beyond that we do not intend to go. That, I think, is the view of the Commission.

Mr. GOULDING. Your Honors will save our exception. Now, on such a question as that I do not know whether we are precluded from arguing it again at the close of the evidence, or whether this is admitted peremptorily and absolutely.

The CHAIRMAN. In trying such a case as this, gentlemen, there are different theories that come into play, and it has always struck me that it was much better to let each party develop his theory, carrying his evidence along with it, and then, when we

finish we can sift the different theories, the evidence that relates to the different theories, and give the parties all the benefit by stating in our report what we have done with them when there is any objection, and by that means, we do not, certainly, exclude anything that we ought not to have excluded; we have had a chance to look the thing all over and determine it according to our best ability. This, we must all bear in mind, is the case of a sale where more or less freedom for liberality of evidence should be permitted. That is my view of it.

Mr. GREEN. In regard to Commissioner Cotter's ruling, we should not want to be estopped from offering this later on for some other purpose because we do not discuss the question any further now. This is sufficient for the purpose—

Mr. COTTER. That was after a conference with the Board. I understood that to be our position.

Mr. GREEN. In some other view of it we may desire to offer it later. For the present we do not consider that we are precluded from offering it in another aspect later on. Does your Honor understand that this would preclude us from making another presentation of it later on?

Mr. COTTER. If it is to be presented in another aspect of the case, we will deal with the question as it is presented. We are dealing with it as it is presented now in the present aspect of the case, and if there are other considerations that may be offered later, we will pass upon them at that time.

Mr. GREEN. (To the Stenographer.) Will you read the question?

(The question was again read.)

Mr. GREEN. That was all I asked. Your Honor admitted it for some purpose now. We do not care to discuss, unless it is necessary, all the purposes for which that might be used, or consider that to be your Honor's ruling. If it is, we should want to argue some other aspects of the case. We consider it is admissible in other aspects of the case besides this.

Mr. COTTER. Mr. Green, why don't you strike out the comparison? It is a comparison of the lot in question with the lot that is taken. If it is available or suitable for such a plant as you are inquiring about, why does not that answer your purpose?

Mr. GREEN. It does for the present.

Mr. COTTER. We wish you would **strike** out the comparison, where you say, as compared with the lot that is taken.

Mr. GREEN. Oh no,—what is it that your Honor **wishes** me to strike out?

Mr. COTTER. You have compared the two lots; you have compared the lot which the expert has in mind with the lot that was taken.

Mr. GREEN. Yes, sir; that is the very thing we want to do, that is the very thing we want to do.

Mr. COTTER. I thought that perhaps you would be content with stating that there were several other lots that were as suitable for the plant as the one we are inquiring about.

Mr. GREEN. No, the very thing we want to introduce is that comparison. We desire to bring that out from this witness, who is practiced in the building of gas plants, and presumably—

Mr. COTTER. I will ask the Stenographer to read that again.

(The question was read again by the Stenographer.)

Mr. BROOKS. Now, may it please your Honors, is not that the very question that has been decided by our Supreme Court, the question of comparison, and adversely to the contention of my friends on the other side?

Mr. GREEN. We have not asked the witness yet for the value of this lot. We are simply asking him to tell us if there is a lot which is suitable, or we have asked it in a form which gives him freedom to answer one way or the other instead of putting it directly how it compared as to suitability. Now, we suppose there is no question raised as to his qualifications?

Mr. COTTER. No, there is no such question raised.

Mr. GREEN. As to his qualifications to tell where there is a good place to build a gas works?

Mr. COTTER. For myself, Mr. Green, I will say that if that lot had been sold—

Mr. GREEN. That lot has been sold within a period of time that your Honors will, in our opinion, consider. That is just the point.

Mr. COTTER. Then we see our way to rule in accordance with your contention.

Mr. GREEN. I will say to the Court that we expect to show

in one of our elements of value the sale, and recent enough to make that in itself answer your Honors' requirements.

Mr. GOULDING. And the evidence of the sale would be competent?

Mr. GREEN. But the evidence of the sale would be of no importance unless this lot was suitable or adapted to the needs of a gas plant.

Mr. COTTER. If you propose to show a sale of this lot, we can clearly let it go in.

Mr. GREEN. We do.

Mr. GOULDING. You mean, let this evidence go in?

Mr. COTTER. That is to say, this particular lot that he has described?

Mr. GOULDING. The comparison.

Mr. COTTER. If he will offer and put in evidence the sale,—and we understand that it is within a reasonable time,—within what time should you say, Mr. Green?—if it is sufficiently close in time.

Mr. GREEN. It was a sale within three years of the period that we are talking about, made by the Water Power Company and to the city of Holyoke, of this particular lot, and we are getting at from this witness the facts which show that the lot is similarly situated for the purposes of its use.

Mr. COTTER. I think under those circumstances we should admit it.

Mr. GOULDING. I submit, your Honors, if there was evidence that the lot could be bought and could be used, that might have something to do with it, but the fact that it has changed hands, that there has been a sale and a purchase, what has that to do with the comparison of the suitability of the lot in question, the comparison of the suitability in the opinion of the witness? What has the sale to do with it? What has the former sale to do with his conclusion?

Mr. COTTER. The fact that there was a sale of a lot of land similarly situated you will admit is some evidence?

Mr. GOULDING. Oh, yes.

Mr. COTTER. And that is what I understand Mr. Green will show, and that it took place within three years, and we say it is sufficiently near in point of time.

Mr. GOULDING. My question is, how does that make this evidence admissible?

Mr. GREEN. Of course, by "similarly situated" we mean equally suitable for this purpose.

Mr. GOULDING. That would not do; that is not similarly situated.

Mr. GREEN. I understand the question is admitted?

Mr. COTTER. We are inclined to admit that evidence with that assurance, that you will show that there was a sale of this lot of land.

The CHAIRMAN. I should personally admit it, anyway. It seems to me if I own a piece of land and another person owns another piece of land, and I claim that my land has a special, peculiar value, on account of the fact that it is the only lot suitable, that experts can certainly be examined as to the availability of the other property.

Mr. BROOKS. That might be, may it please your Honor, but the question your Honor would put if you sought to introduce it would be whether or not that piece of land was available for this certain purpose. You would not seek to compare it with the property under consideration.

Mr. GOULDING. Supposing there was a question of the value of a hotel, would your Honor introduce a lot of experts to say that there was a lot up on the hill above there that would be a great deal better than this lot as a matter of expert opinion?

Mr. MATTHEWS. Yes, if you were valuing the hotel for the purpose of its use.

Mr. BROOKS. We say that there have been twelve or fifteen cases that seem to settle this.

The CHAIRMAN. We decide but one case, Mr. Brooks. Perhaps you may be right, but I do not think so.

Mr. MATTHEWS. I think, your Honor, it will turn out that Mr. Brooks' fifteen cases are cases of eminent domain.

Mr. GOULDING. Absolutely no difference whatever.

Mr. MATTHEWS. The statute says, "value for the purposes of its use."

The CHAIRMAN. Mr. Witness, will you answer that question?

Mr. GREEN. (To the Stenographer.) Won't you read that question to Mr. Davis again?

(The question, "What should you say of the suitability of this piece of land for a gas works as compared with the present location," was read by the Stenographer.)

A. The piece of land that these (indicating) works are located on I should consider was better for the purpose than the present location.

Mr. BROOKS. This is under our exception.

Q. Explain what you mean by that. A. It is a better piece of land to build works on for the distributing of gas to the city.

Q. Well, in what way? A. In one way, which is the principal way: It is considerably lower in grade. They tell me six hundred feet. I have not measured it.

Q. Do you mean that? A. I have heard someone say that. I have not measured it; I don't know. They say it is a lower piece of ground. The lower you get a gas works to supply a city or town the better. I may be mistaken on the number of feet.

Q. Well, in any other respect? A. It is in a better shape, better place than the present land. It is a square piece, nearly so, and the other piece is very much cut up in lines.

Q. And in any other respects? A. I don't know of any other particulars.

Q. You were down there and inspected this lot? A. I was there.

Q. Whether or not it is all built around it? Do you remember whether there is open land about there? A. There are some open places there, not built on.

Q. Now, you said "The lot upon which these works are located?" A. Yes.

Q. By "these works," what did you refer to? A. This (indicating the plan).

Q. Those are the works that you had considered building, that is your new plan? A. For the new plant, yes.

Q. For the new plant? A. It is a better shaped lot. It is squarer, and the place you are building on better. I took that six hundred feet fall from this, but I should think it was considerably lower.

Q. Now, Mr. Davis, turning back to page 2 of your schedule— A. What page is that? 63?

Q. No, page 2, page 2. Your schedule is headed, "Detailed Estimates of the Value of the Buildings, Machinery, Street Work, and Materials on Hand?" A. Yes.

.The CHAIRMAN. You don't want to read that all through, do you?

Mr. GREEN. No, I do not. I didn't intend to.

Q. Mr. Davis, that schedule under that heading, as I understand, continues from page 2 to page 37, that is, the recapitulation set forth on page 37 is of the detailed estimate, that you made of the value of the buildings, machinery, street work and materials on hand? A. I haven't got that—Oh, 37?

Q. Yes. A. Yes. Do you want me to read them?

Q. No, it is not necessary. The amount, exclusive of land, is \$200,388.73? A. Yes.

Q. As I notice, you take up, building by building, the retort house building, water gas plant, all these various buildings and apparatus? A. Take them up separately.

Q. Of the existing works of the Holyoke Water Power Company? A. Yes, sir.

Q. Take them up separately? A. All through the new work. This here (indicating) was taken up in the same way.

Q. And you arrived at a result there of \$200,000, as you have given? A. Yes, sir.

Q. How did you value those? Tell the Commission how you proceeded in getting at those various valuations which are summed up in your total of \$200,388? A. In the first place I took the buildings, measured the buildings, and found out the number of brick each building would take.

Q. Yes. A. Then I got the roof, iron or wood, the dimension of that, and made an estimate on that, slating the same, roof and slating, and then I went on to the machinery, which included the holders and the purifier buildings and all those buildings outside of the retort house. I went through the water plant in the same way. I then took the other buildings, and then went on to the machinery in the same way, itemized every part—each part.

Q. That is, you estimated all the quantities, and you figured a result for each building, as I notice? A. Yes.

Q. Now, take for illustration page 2 of the schedule, the second page of your schedule. A. Yes.

Q. Now, what does that total, \$5,388 for the retort house, represent? A. It represents the building.

Q. Well, what about the building? A. Well, it takes two hundred and ten—is that what you want, the number of bricks?

Q. No; of course you tell us the number of bricks in it and the windows and doors and all the material, but what does the result in dollars and cents represent? A. It represents the retort building, retort house building.

Q. What about it, cost or value? A. The value of it, the value that I put upon it.

By the CHAIRMAN.

Q. Just as it stands and did stand in 1898? A. Yes.

By Mr. GREEN.

Q. That is, you valued it as it stands there? A. Yes.

Q. And whether that is true of all your other estimates in this schedule 1? A. Yes.

Q. That is the way that you have valued all these parts, the buildings and apparatus—just as they stood? A. Just as they stood; pipes and everything in connection with the old works.

Q. Now, how did you, in getting at that value—how did you consider it? That is, in your own language and your own way, how did you consider the plant? A. I considered the work that I estimated on was the value—the worth of—what it was worth.

Q. What it was worth in what way? A. As a running plant.

Q. As a running plant? A. Yes.

(Interruption.)

Q. You said you considered it as a running plant? A. A running plant; a running plant; as being in use and running.

Q. Now, taking these various schedules, your detailed estimate of the value of the buildings and your cost of a new plant and your relative capacity and your memorandum of changes, and so on, will you explain to the Commission how you reasoned out the value of \$200,388 as being the value of this plant?

Mr. GOULDING. Isn't it the footing of these several things?

The CHAIRMAN. He has already stated, I think.

Mr. GREEN. Not entirely, if your Honor pleases, he has not, pardon me.

The CHAIRMAN. All right.



Mr. GREEN. That is, in other words, how did he treat these factors?

Q. How did you reason out your value of \$200,388? A. After I got those figures I thought—

Q. What figures? A. The figures for the old work, this \$200,000.

Q. Contained in Schedule 1? A. Yes. I thought it would be a good idea to make plans, specifications and propositions for a new work, which I have done. And I found this piece of land which would be suitable for that purpose, and placed the buildings on as you see them here for a million capacity plant, excepting the holder, not quite up to that, amounting to a certain sum.

Q. That is, it amounted to the sum of \$255,114? A. Exclusive of the land, that was.

By the CHAIRMAN.

Q. Then how did you hitch them together? That is what he wants. A. Well, then I thought to myself—I didn't say it to myself—I thought, what is the difference between this new plant not running and this old plant not running? I said I thought about \$75,000 would be the difference. I then took the \$75,000 from this new plant; we will consider that built; in fact, I would have taken the contract to build it for that money I stated there; consider that built, take that \$75,000, it leaves a balance of somewhere about \$180,000.

By Mr. GREEN.

Q. Is that figured on page 67? You say you took the price of \$75,000 from the new plant of \$255,114.81? A. It left a balance of \$180,114.81. Then I thought if the old plant was running and in use and could go on and make money, rather than to build a new plant, which there would be the interest of the money expended while building, and the liability of damage and losses with accidents, etc., that it would be about a fair thing to call the old works what I had estimated them, at two hundred thousand and some odd dollars. That was giving the old works about \$20,000 for having works to run and make money while the new works were being built. That is the way I got at it. I proved one with the other in that way.

Q. You stated that you thought there was \$75,000 difference

in the value of the two works not running; in favor of which? A. In favor of the—well, take the old one away from the new—

The CHAIRMAN. In favor of the new plant.

Q. In favor of the new plant? A. In favor of the new plant, of course. I didn't suppose it was necessary to mention that.

Q. Did you make any other comparison between the two? A. Well, not to get at those figures, I did not, excepting as I stated, the advantage of having the works to run while you were building the new and making money.

Q. On page 67 I notice that you have a table there representing the difference in value between the new plant and the old. A. Well, that was \$54,726. That was the difference, I called that once—\$180,114—which was the difference between the old and the new, taking off the \$75,000.

Q. Oh, just a moment, Mr. Davis. I think I confused you by my question. What use do you make of that first table on page 67, if you will examine it, please, the very first? A. Well, what do you want, the difference there, or—

Q. You stated the difference between the estimated cost of the new plant and the estimated value of the Company's plant, both exclusive of land, is \$54,726.81. A. Yes.

Q. And that, you state, is about the amount it will take to put the old plant in capacity equal to the new plant. You mean by that as shown by your memorandum? A. I have not answered that question yet; you have not asked me the difference there; if you will—

Q. What use do you make of that—that computation, those figures? A. I do not make any particular use of them, any more than to take off the \$75,000 from them, leaving this \$180,000, and then I give the other \$20,000, which brings it up to my estimate of the value of the old works now running, for the benefit of running the works while we are building new, and the interest and damage and accidents and all that—in my judgment, about \$20,000. It would bring the value of the old works about what I have estimated there. And there is another advantage, of course: the pipes would be very much better in the new works than they are in the old. That is, the new part would be much larger and not so many small; in fact, not anything smaller than 3 inch.

Q. How many times did you examine this plant—the existing works? A. The old works?

Q. Yes. A. I think three or four times, I don't know which.

By Mr. BROOKS.

Q. How many? A. Three or four; I think I was there three days.

By Mr. GREEN.

Q. What did you notice, if anything, in regard to any of the tanks that were there? A. The gas tanks?

Q. Yes. A. I noticed those at the works were leaking pretty bad with water. I didn't make much account of that, for I thought the water didn't cost much—running in and out. I didn't make any difference in my estimate.

Q. You made no allowance for that? A. No.

Mr. BROOKS. He says there was no allowance to be made.

Mr. GREEN. Well, I don't know. He said the water didn't cost them much. If the water—

Mr. BROOKS. He said it made no difference.

The WITNESS. I said I didn't make any difference in my estimate.

The CHAIRMAN. All right; let us go to something else.

The WITNESS. If I owned the works—this is not in evidence—

The CHAIRMAN. Yes, it is in evidence, you understand.

The WITNESS. Then I won't say anything about it.

Mr. GOULDING. We don't care about his argument.

The CHAIRMAN. No.

Q. Well, Mr. Davis, if the water did cost something, whether or not that would be a problem to be considered in the value of the tanks? A. It would be; it would be a great problem.

Mr. GREEN. We desire at this point to offer the evidence of the cost of a new plant, not alone on the ground that it was one of the reasons used by Mr. Davis in arriving at his result, but we desire the right to put that in as a substantive fact.

The CHAIRMAN. You need not do that this afternoon. Mr. Cotter and myself and the other Commissioner will think it over as to whether that can be done or not, and hear you gentlemen before we decide. I mean we will hear you before we think it

over, but you probably do not care to go on on that this afternoon.

Mr. GREEN. Very well.

Mr. MATTHEWS. Will tomorrow morning be agreeable?

The CHAIRMAN. Yes. I am rather curious to know what the occasion for doing it is, but I will find out tomorrow morning. You have got it in already, Mr. Matthews, in one sense.

Mr. MATTHEWS. For one purpose and in one sense.

The CHAIRMAN. I confess that where an expert gives a reason for an opinion within his own knowledge and information, as the witness has, and then the proposition arises on the part of the petitioner to have it struck out because it is not competent for any purpose, there is not much difference now, under the decisions, whether a witness makes a statement as a fact or whether he makes it as a reason for his opinion, so long as he states facts from his own knowledge. And this is within his own knowledge, he says; he says it is not data that he has taken from anybody else.

Mr. MATTHEWS. We appreciate those reasons, but we entertain the theory that this evidence is independently admissible on other grounds.

The CHAIRMAN. We will hear you, then, Mr. Matthews, unless you prefer to put it over until tomorrow morning, if it is agreeable.

Mr. MATTHEWS. It is to us, if it is to counsel on the other side. I would like to offer it before the direct examination of Mr. Davis closes.

Mr. BROOKS. I did not understand.

Mr. MATTHEWS. I said that Mr. Green has got through with the questions that he intended to ask Mr. Davis on the direct examination now. We wanted to raise this question before Mr. Davis leaves the stand—that is, before his cross-examination begins. If the Commissioners and counsel are ready, we will argue it now or tomorrow morning, either, leaving you in the meantime to go on with your cross. It is immaterial to us. I make that statement simply because the Chairman of the Commission suggested it.

The CHAIRMAN. If you are ready we will hear you now, then.

DISCUSSION ON ADMISSIBILITY OF EVIDENCE OF  
COST OF A NEW PLANT.*Argument of Mr. MATTHEWS.*

Mr. MATTHEWS. If your Honors please, the question which is now before the Commissioners for their decision is, we conceive, a fundamental question, and the Commissioners will pardon us if we argue it at some length, especially in view of the intimation from the chairman that the question is a novel one.

The consideration and decision of the question cannot very well be reached, the question itself cannot very well be understood, without a careful examination of the phraseology of the purchase clauses of the municipal lighting act, and an appreciation of the difference between that phraseology and the language of the statutes which are commonly the subject of construction in valuation cases; that is, in cases of eminent domain, cases of insurance, cases of trover, etc.

There are no adjudicated cases as to what evidence is admissible under a statute like this. There are only five cases in the law books involving the construction of a statute which can be said to be in any manner similar; the three English cases, the Kansas City Works and the Newburyport Water Case, all involving the construction of statutes somewhat similar, but not identical with this. But apart from those five cases, gentlemen, there is no adjudicated case in the courts of this country or of England which involves the construction of a statute which prescribes the valuation of property in the terms of the municipal lighting act.

There are, however, innumerable cases upon the effect that is to be given to the measure of valuation prescribed in cases of eminent domain, to the measure of value prescribed in cases where a plaintiff is suing on an insurance policy for a total loss, and there are numerous valuation cases arising in actions of trover, and also some cases involving the valuation of property for the purpose of taxation. None of them, however, involve exactly the same rule—it seems to us, at least—as is imposed upon you by the plain

and unmistakable terms of the municipal lighting law. The nearest approach we conceive to be the language of our tax laws; but that, again, as I shall have occasion to point out in a moment, is not exactly the same as the language of section 12 of the municipal lighting law.

Let us see why there should be a difference in the rules of law applicable to valuations of property in these several classes of cases. In a taking of the property of a citizen by eminent domain, he is entitled to the full value of his property without any restriction or qualification whatsoever. If the statute authorizing the taking does not give him that full value, but seeks to restrict it in any manner, the law itself is unconstitutional and void. Consequently we find that they seldom or never do. All statutes of eminent domain, broadly speaking, give the citizen "damages," all the damages that he has sustained, and no rule of valuation is prescribed. If it were, the act would be void and worthless, unless the rule as prescribed should be co-extensive with his constitutional rights. It follows that the petitioner in a case of eminent domain is not restricted to any particular rule, such as market value, and if he can show that his property has a higher value for any other purpose, for his own or for some other purpose, than what he could sell it for, which is market value, he is entitled to that higher value.

Market value, therefore, in cases of eminent domain, is never theoretically the rule. It is practically the rule in most such cases, because, as a matter of fact, almost every class of property which is taken by eminent domain, such as land and buildings, has a selling price, the receipt of which will enable the petitioner to put himself in the position he was in before the taking and procure other similar property of equal value. In that case of course market value is full value; but wherever he can show a higher value he is entitled to that. That is settled at last in this State, although generally assumed before, by the case of *Beale v. Boston*, 166 Mass.; 53. I call your Honors' attention particularly to that case because it lays down a principle the recognition of which enables us very easily to distinguish all the cases which will be cited upon the other side, involving the estimation of damages in cases of eminent domain.

So in insurance cases, a different rule necessarily exists from that which is to be applied in the case at bar. An insurance policy is a contract of indemnity; and the assured is not limited to the market value of his property. If the property had a higher value for any other purpose, as for use or occupation by him, he is entitled to that.

So in cases of trover, it often happens that the market or selling price of the article is not the measure of recovery, because it would not put the owner in the position he was in before.

Now, premising and admitting that what a thing can be sold for, which is what we conceive market value to be, is not the limit of recovery, theoretically at least, in cases of eminent domain, insurance and trover, we say that it is the rule in this case. The act says that the appraisal shall be the fair market value of the property. It uses other qualifying language, which I will consider in its turn, but the first injunction to the Commissioners in valuing this property is to take it at its fair market value; and that, as I have already intimated, does not mean in every conceivable case the full value to the owner. It means what he could sell it for, what a willing purchaser would pay for it, having occasion to use it and a desire to purchase it.

The judicial definition of market value, I think, was quoted by my brother Green in his opening yesterday, from *Murray v. Stanton* and *Lawrence v. Boston* in the 98th and 119th Massachusetts, respectively. It is, in substance, I think, as I just put it. Market value means what a man would pay for it, what a purchaser could fairly be asked to pay, what the owner could fairly and reasonably expect to get for the property on a sale; and, as is held in the two cases that I have just mentioned, and also in the case of *Beale v. Boston*, in the 166th Massachusetts, that is not always the measure of recovery in cases of eminent domain, where the owner is entitled to a higher value if he can show it.

Let me put one of two cases by way of illustration. Suppose the petitioner in a case of eminent domain lives in an expensive house, costing a million dollars, more or less, and a railroad goes through it, or the whole of it is taken for a park. We apprehend that the petitioner is not confined to the market or selling price of his house and land. He might not be able to get \$100,000 for it. Expensive luxuries of

that kind oftentimes cannot be sold for ten per cent. of their cost ; but in cases of eminent domain he is entitled to a price which would replace for him the thing that has been taken from him ; he is probably entitled in such cases to the reproductive cost as the value of the property to him.

And so, I take it, in an insurance case. If a house is insured, and a total loss is sustained, the owner can recover such a sum which will enable him to replace the property. There again the rule of reproductive cost applies.

Now, in this case, the city of Holyoke is confined in its recovery to the market value of this property. That is the first rule, and no exception is to be made to the rule of market value by reason of the fact, afterwards provided for in the act, that some portion of its property may have a peculiar or special value, because the words used with reference to such property are also market value. Every valuation which you make in this case, whether of the property as a whole or some portion of it which the company may claim to have special and peculiar value, must be a valuation of what the thing could be sold for.

Now how do you get at the price that a man can get for his property? How do you get at market value as distinguished from real value, or a higher value, if there is any, to the owner? It is the largest sum that any purchaser would pay for the thing in its entirety. The purchaser could do two things with it. He could keep it and use it for the purpose for which it was built, in this case a gas and electric light plant, or he could dismantle it and sell it piecemeal. Those are the only two things he could do with it. And by the ordinary rule of the courts the company is entitled to the most that a purchaser would pay for its property for either purpose. Of course, in the case of a gas and electric light plant, consisting of buildings of peculiar construction, of peculiar and highly specialized machinery unavailable for any other purpose, the largest value that the property would have would be its value to someone who would use it for the purpose for which it is being used today, that is, for the manufacture and distribution of gas and electricity. So that the rule, of which we concede the company may have the benefit, that if it can show any higher value for any other purpose—which we would concede, that is, if it were not for some qualifying expressions in the



statute later on—would not have any application to this case, anyway. The property is to be valued as a whole, because, *ex hypothesi*, you are selling it as a whole, and the test is what a man would pay for it who was buying it.

The market value of this property is thus what it would sell for as a whole, and not the aggregate cost to reproduce the several component parts of the plant. It is obvious that the aggregate cost to reproduce the various component parts of the plant might theoretically be equal to the market value of the property as a whole. In the case I suggested this morning, of a brand new plant just built on the most approved designs, there would be very little, if any, difference between the aggregate cost to reproduce that plant in site as it stands, and its market value, that is, what a purchaser would pay for it. But in every other case, practically in every valuation case that can possibly arise under this law, that condition of affairs does not exist. The Commissioners have in all such cases to value a plant which is the slow growth of years, which is not a harmonious, united whole, built at a single time, with the single thought to get the best plant that could be bought for the money and for the purpose for which it was to be installed, but a plant which must necessarily be the result of years of experiment, including many failures, perhaps, and of the slow growth of time. The result is that we have an aggregation of machinery, an aggregation of buildings and land; and the cost to replace those three things, considered separately and then added together, is necessarily far in excess of what a man would pay for the property as a whole.

I said a moment ago that there were no cases upon this subject, no adjudications of the Court upon this question of the market value of property as a whole, nearer than those of the tax cases. They, I think, are fairly near; and I refer particularly to the case of the Tremont & Suffolk Mills, 163 Mass., 283. Under our tax laws, which provide that property shall be valued for the purpose of taxation at its "fair cash valuation," evidently meaning market value, our Court has held that it is erroneous to take the value of the land by itself and the value of the buildings by themselves considered apart from the land, and the value of the machinery by itself, and then add them all together. They have said that it was error to take the value of the land, plus the cost

to reproduce the buildings, plus the cost to replace the machinery, and add them all together to get the value of the whole. Because the value of the whole, if it can only be used for a mill, as was the case there, may be, and was in that case held to be, considerably less than the aggregate cost to reproduce the several component parts of the property.

It is, of course, theoretically conceivable that the value of the property as a whole may somewhat exceed the value of its component parts. That case also has been before our Supreme Judicial Court, and it has been decided that in that case also to take the reproductive cost of the plant reached by getting the cost to replace its component parts item by item, is not the way to value it; but the tax assessors must take the value of the property as a whole. That is the case of the *Troy Cotton Company v. Fall River*, 167 Mass., 517.

Thus, we have both sides, the converse and the obverse of our proposition; and while the tax law of the State is not exactly the same in phraseology as the municipal lighting law, it is much closer to it than any other statute I could cite. In default of any better authority, we submit that these two decisions are conclusive upon the action of the Commissioners in this case. The property must be valued as a whole, as it is at the time of valuation.

As as a matter of fact, we do not need any authority. It is simply a matter of argument and common sense, that if you are confined to market value, which by our Court has been defined as selling value, you can only give what a man would go into the market and pay for these plants; and that sum, of course, is measured by what they are worth to him for the purpose of their use, worth to the owner or to himself or to any purchaser for that purpose; what they are worth as a whole, not what it would cost him to reproduce the existing plant item by item, but what the thing is worth as it stands.

Let me pause here for a moment and suggest to you what the consequences of the alternative theory would be. Suppose that after the plant has been operated for twenty or fifty years, and represents, as I have said, the accumulation of that length of experience, it is found that it costs 50 per cent. more to operate it than it would to operate a new plant. Is it within the realms of

possibility that a purchaser would pay as much for that aggregation of old buildings and machinery as he would for a new plant, out of which he could make double the amount of money? You cannot divorce the value of this plant from its capacity as a whole, using the word "capacity" in its largest sense. You cannot divorce the value of this plant as a whole from its capacity in a narrower sense, or from its efficiency, or from its economy of operation. All these facts must be taken into account in valuing this or any plant under a statute like this. Otherwise you get into this dilemma, from which there is no escape: you assume that a man will pay as much for a plant which will cost him \$100,000 a year to operate as he will for a plant he can operate for \$50,000. Therefore, if you are going to value this property as a whole you must take it as a whole and consider what the purchaser can do with it, what he can make out of it as a plant; that is, what it will cost him to operate it.

You must also take into account the suitability of the plant. It might be that a plant costing two or three hundred thousand dollars might not only be very expensive to operate, but might be obsolete in character and so unsuitable that it would have very little value for other reasons than expense to operate. It might have such a small value for the purpose of its use that it would have to be thrown away, dismantled, and a new plant built by the purchaser within a few years. Is it common sense to say that a purchaser would pay as much for a plant in that condition as he would for a new plant, capable of meeting the demands of the community? You must take into account the cost of such additions or improvements as are immediately necessary, or you do not estimate the plant at its present value.

Let me suggest another difficulty in the theory that you can ignore the cost of new and proper works in which any judge or any purchaser would find himself who should attempt to act upon it. If you are to measure the value of property by reproductive cost, there is evidently none or little difference in the value of a plant here and the value of the same plant somewhere else. But would anyone pay as much for the great works of the Boston Gas Light Company if they were situated in the city of Holyoke, a city less than one-tenth the size of this, as they would for the same works here in Boston, where they are presumptively ade-

quate and suitable for the amount of gas they will be called upon to make? And yet if you apply the test of reproductive cost you measure a plant by its size, irrespective of the manufacturing industry that it is called upon to operate, irrespective of the probable demands upon it. Would anybody in his senses do that? Would any man pay as much for a gas plant costing \$5,000,000, for instance, situated in the city of Holyoke as he would if it was situated in the city of Boston? Evidently not; and yet that is where the rule of reproductive cost inevitably lands you. It compels you to ignore all differences in site, all questions of suitability, all questions of adaptability to the purpose for which the plant was intended, bought and installed, and for which it is being used; and it compels you to ignore all questions of the relative efficiency and economy of operation. And yet, Mr. Chairman, those are the very things that a purchaser would look into; and he could only be expected fairly to pay for the plant its value, taking all those considerations into account.

So, if we only had in this act the words "market value" you would be compelled to value this plant as a whole at what a purchaser could fairly be expected to pay for it, and that necessarily means that you must take into account the cost of a proper plant for doing the business that the plant in question is doing.

But that is not all. The act not only says that property of the company shall be valued at its market value rather than at any higher value it might have, but that it shall be valued "for the purposes of its use," which evidently means the purpose for which it is being used; which in this case, or any case under the municipal lighting law, is the purpose of manufacturing gas and electricity in a particular town or city. Now, is it conceivable that a man buying, or intending to buy, a gas works in Holyoke, and being called on to pay only what it was worth for the purpose of manufacturing and distributing gas there, would go up to Holyoke and take an inventory of everything they had, find out what it would cost to replace each identical item, add them all together, throw in ten or fifteen per cent. for engineering expenses and contingencies, and say, Why, certainly, I will pay the total aggregate; without considering what he could get a new plant for that would do just as much work as the present plant, that might do it more economically or more efficiently,

and that would not involve any expenditure in the near future for necessary enlargements and additions? The supposition is inconceivable, and assumes that the hypothetical purchaser is absolutely devoid of common sense.

What he would do in such a case would be to find out the condition of the property, how much it cost to make gas, how much it cost to distribute gas, and he would make up his mind whether these figures were high or not compared with what he knew the cost of making and distributing gas ought to be in places of this size. He would then find out what he could get a plant for, which would not involve the expenditure of more money in the near future for extensions, and which would have as much efficiency, if not more, and be at least as economical to operate, if not more so. Now, that sum, when he had found it, would not be the absolute measure of the price that he could fairly be expected to pay, but it would be a test, and, we submit, the best test, the most practical test, of the maximum amount that the hypothetical purchaser could afford to pay. He might, it is true, also resort to its reproductive cost as a sort of a check upon the other estimate. The purchaser would like perhaps to know what it would cost to replace the plant in its identical features. He certainly would if the plant was of recent construction. Whether he would in the case of a plant that was the result of the slow growth of half a century is to my mind extremely doubtful. Personally, I do not think he would. Still, theoretically, we concede that this is admissible evidence as having some tendency to show the present value of the plant. But to set this test of reproductive cost up as the sole measure of value is to assume that the purchaser is a fool, that he would buy blindly, without the slightest information or knowledge concerning the things that he ought to want to know; and, furthermore, it is to ignore the plain injunction of the statute, which is to value this property at its selling value for the purpose of its use.

I said there were very few authorities upon this question, Mr. Chairman, but there is a good deal of practice that I think I can refer to with some confidence as being identical in theory with the line of evidence which we seek to introduce. It is familiar practice, and good law, too, that in valuing water power you may test it by the cost of producing an equivalent amount of power by

steam. No one will dispute that proposition. Now, Mr. Chairman, what does this process amount to? What does the expert do, when he uses as one of the data of his opinion of the value of water power his estimate of the cost to generate an equivalent amount of power by steam? He creates a plant for the purpose, in his own mind, just as we do here. He creates a steam plant. He has to estimate the quantity of land, just as Mr. Davis has in this gas case. He estimates the size and character and construction of buildings, just as Mr. Davis has. He fills that building with machinery, just as Mr. Davis has in the case of his hypothetical gas works. He does all this work to get the basis of his fixed charges. In other words, he constructs a plant. Moreover the witnesses on the other side did it in this case. Every one of the witnesses called to value the water power of the Company in this case constructed a plant of his own, operated by steam, for the purpose of getting at the value of the water power involved in this case. And we did not object to it. We knew that it was a perfectly proper way to get at the value of water power. We do not think that the witnesses' conclusions were correct, we do not think that the manner in which they used the process was correct; but the theory itself was all right. Now, Mr. Chairman, how can you get away from the identity of processes involved in the creation of hypothetical steam plants by the witnesses in water power cases, and this case, and the creation by Mr. Davis of his hypothetical gas plant? When that evidence was going in we did not on our side of this case talk to their witnesses about their "ideal" plants; we did not suggest that they were trying to drive into the case a "paper" plant. On the contrary, we assumed that that was a common sense way to get at the value of water power. Mr. Chairman, it is not an "ideal" way, it is simply a practical, common sense way to get at the value of a manufacturing plant.

I submit that there is no escape from the conclusion that the valuation of water power in that way by means of theoretic steam plants created in the brain, as Brother Goulding called it, of the witness, is exactly analogous to the process which we ask you to allow Mr. Davis to perform for our side. I ask my brothers' attention to this parallel, and request them, if they can, to explain it otherwise when they reply. It is the practical, the common sense

way, the best way to reach the value of complicated machinery which has not been built new for the occasion, but which is the growth of time.

Another illustration drawn from the recesses of our brothers' case. What is their reproductive cost, after all, but the figment of imagination? What is this "structural value," as they call it, but the value which they put upon an ideal, hypothetical plant? Every one of their witnesses without exception, admitted—I do not say that in the sense of meaning it was dragged out of them; it was a voluntary statement, and accompanied by clear explanation in every case—that the way they got at what they called their structural valuations of the property of the Holyoke Water Power Company was to take the cost of duplication, that is to say, the cost of a new works to be built on the same lines as the present works—the cost of a new plant, in other words—and then making some allowance for depreciation due to age and use.

Mr. Chairman, I ask attention to this line of reasoning. It is admissible, we concede, although we do not think it has much relevancy in the case of a plant that was begun in 1850; and it has gone into the case for what it was worth. But what does it mean? What is the process? It is nothing but the creation of a new, non-existing plant; a new plant at what it would cost in January, 1898, in the city of Holyoke; and the only difference between this new plant and our new plant is that theirs is built upon the site and follows the exact lines of the existing plant, while ours is built upon a proper site and follows the lines of what we shall hope to convince you ought to be built in the city of Holyoke to have a full commercial value. But the process is the same. I should like to ask these gentlemen how they are going to get away from this comparison.

We have, therefore, in this case the injunction of the legislature to value this property at its market price for the purposes of its use, and we ask that this evidence be admitted as a fact which may be taken into account by the Commissioners in reaching their award in this case. We shall ask the Commissioners to find as an independent fact what would have been the cost of building in the city of Holyoke in January, 1898, a new plant, properly designed, of the proper capacity, and otherwise suitable for the needs of the inhabitants of Holyoke in the matter of lighting by

gas, and the same for electricity. We do not pretend or contend that this sum should be the sole measure of value; but we do assert that it must be taken into account by the Commissioners.

There are other phrases in the purchase clause of the Municipal Lighting Act which affect the measure of value in this case. For instance, there is the injunction that if any part of the plant has a greater value for any other purpose, that must be allowed. The discussion of the meaning of that clause I do not see to be necessary at the present time. We have our theory as to what it means, and I suppose the other side have theirs; but it does not seem to affect the question now under discussion, which is simply that the property should be valued at what it would sell for, and that in getting at this value you must necessarily take into account what the cost would be of a proper plant, built according to proper lines, design and methods in January, 1898.

Now, a word as to the distinction between the cost of this supposed plant and the plans and specifications for it. We have offered the plans and specifications, but we should hesitate to claim that they, in themselves, are independent evidence. We think that the plans and the specifications go in rather as part of the data which the witness used in reaching the fact which we wish to get before the Commission and the Court, namely, the cost of the new plant. Mr. Davis has simply done what the witnesses upon the other side might have done but did not do, and which, if they had done, we should not have objected to. When Mr. Witham and Professor Robb and Mr. Allen and others were constructing upon the witness stand their ideal plants to be operated by steam for the purpose of getting at the value of the water power, they might have furnished to your Honors as additional assistance plans and specifications showing how they would lay out that steam plant. I think they told what area they would assume for the land, and they certainly answered a number of questions respecting the character of the buildings and machinery. They might have gone further and submitted plans, as Mr. Davis has; they might have put in specifications, too, as he has done. All this is matter of detail. I should hesitate to claim that these details were themselves admissible, as independent data to be used by the Commission.

We rely upon this proposition and on this alone: that the cost



of a plant of substantially the capacity of the existing plant, making allowance for such alterations and additions as must be made, either at once or within the next few years, and built according to modern principles and designs, is admissible as evidence and must be taken into account by the Commissioners as one of the facts which they use in reaching their valuation.

We would like a final ruling upon this offer. As to the practice in such matters, as the Chairman has said, evidence of this sort has sometimes been admitted with the reservation by the Commission of the right to pass upon it at the close of the case. That has been done in this case with respect to the evidence of value based on earnings, so to speak, which was offered by the other side. We did not object to that course being taken in that matter, because, while we felt that it was wholly incompetent to capitalize the earnings, we did not feel entirely certain that the earnings were not admissible for some minor and collateral purpose. In regard to the present question, however, we feel confident that we are entitled, as matter of law, to show as a substantive fact the cost of a new and proper plant in January, 1898; and we ask for a final ruling upon that offer.

Mr. GOULDING. I cannot go over this argument tonight in seven minutes.

The CHAIRMAN. Will you be ready at ten in the morning?

Mr. GOULDING. Yes.

Mr. BROOKS. I suppose, Mr. Green, we can take the specifications of your ideal plant and the plans of your ideal plant?

Mr. GREEN. Certainly.

(Adjourned to Wednesday, November 14, at 10 A. M.)

### THIRTY-THIRD HEARING.

---

BOSTON, Wednesday, Nov. 14, 1900.

The Commission met at the Court House at 10 A.M.

#### *Argument of Mr. MATTHEWS, concluded.*

Mr. MATTHEWS. Just a few words in addition to what I said yesterday. I find that I stated that all the company's witnesses, on the gas plant, had constructed a new plant and estimated its cost, the same being upon the lines of the existing plant. I find now that I was in error in respect to one of them. Mr. Randolph did not do that. Mr. Randolph estimated the value of the different parts of the plant as they stood, taking depreciation and all other considerations into account; but the other witnesses upon the gas plant, Messrs. Prichard, Nettleton, Sherman, Fowler, and Allen, all gave, as their estimate of the value of the plant, the cost to reproduce a new plant in January, 1898.

Mr. COTTER. Was it that plant, — the cost to reproduce that plant?

Mr. MATTHEWS. It was the cost to build a new plant, identical in appearance, shape, and dimensions, etc., with the present plant. I wish to make no substantial correction in my statement of yesterday except to omit Mr. Randolph, who did not use that process. Perhaps the Commission may like the reference to the testimony where the other five witnesses I have named explained their process as I have stated it. Mr. Prichard's explanation of his process will be found in volume 2, pages 2 and 3 and pages 59 to 68. Mr. Nettleton's explanation is found in volume 3, page 41, and pages 44 to 46. Mr. Sherman's is in volume 3, pages 92 and 93; Mr. Fowler's, in volume 3, pages 169, 170, 186, and 193; and Mr. Allen's explanation is in volume 5, page 83.

I would also like to make this suggestion, that the reason why this line of evidence has not been more frequently resorted to in the trial of valuation cases is because it is hardly appropriate, as a matter of fact, to the valuation of anything except a manufacturing plant. Take, for instance, the case of water works. You seldom hear of it in such works, although I believe it was admitted in the Gloucester case, as the Chairman said yesterday. In such cases you do not value a manufacturing plant. You have a supply system and a distribution system; and, if there was nothing but a distribution system in this case, a resort to this mode of assistance would hardly be worth while. As to the supply of water plant,—that is, the water supply system as distinguished from the distribution,—this line of evidence would also be of very little value whatever. This line of evidence is not likely to be resorted to in any case that involves the valuation of anything but a manufacturing plant. Now the ordinary manufacturing plant is not the subject of this kind of litigation, and therefore the only cases that throw any real light upon the subject are the tax valuation cases, where manufacturing property, according to the authorities that I cited yesterday, is to be valued as a whole, and not according to the aggregate cost to reproduce or the aggregate value of its component parts.

The CHAIRMAN. Let me call your attention, Mr. Matthews, to the opinion of the Court in the Newburyport case in the 168th Massachusetts. The Court say that in this method of reproduction—or I don't think they do go into the matter of detail, but that they follow the cost of reproduction less depreciation.

Mr. MATTHEWS. Plus an allowance, since it was a going concern.

The CHAIRMAN. Yes, plus an allowance for a going concern.

Mr. MATTHEWS. It was because the rule of reproductive cost was followed in that case that I sought to distinguish the applicability of our proffered evidence in cases of this class and in an ordinary water case. I do not see how it would be of any considerable value in an ordinary water case; and no

such evidence was offered in the Newburyport case if my memory serves me. The Chairman will correct me if I am wrong; that is, evidence as to the cost of a new plant.

The CHAIRMAN. No, I don't think there was. That was introduced in the Gloucester case.

Mr. MATTHEWS. In the Gloucester case, yes.

The CHAIRMAN. Oh, the cost of a duplicate was introduced.

Mr. MATTHEWS. Yes; but the cost of a new plant in the sense in which we have been using the expression for the last two days was not sought to be introduced in the Newburyport case; and, as I was just endeavoring to point out to the Commissioners, its applicability in cases involving the valuation of a water supply seems to me extremely slight, whereas, in the case of a manufacturing plant, it is the one thing that the purchaser would want to know, and, while not the sole, it must be the principal test of value.

We contend that this point has been practically settled by the Supreme Judicial Court of this State in the case of the Tremont and Suffolk Mills.

I would also like to point out a distinction between the valuation clause in this case and the valuation clause in the Newburyport water case,—a distinction which might induce our Court to lay down a totally different rule of value, a distinction which has a peculiar bearing upon the point that I am now discussing; and that is that the measure of recovery in the Newburyport water case was not confined to market value. The word "market" is not used in the Newburyport act. The word "market" is used in the municipal lighting act, and the measure of recovery is expressly confined to market value.

The CHAIRMAN. I know: you argued that, as to the distinction. I won't trouble you about that.

Mr. MATTHEWS. That is our case; that there is a distinction between market value and full value, and that the company in this case is not entitled to full value, if there is any value in excess of market value. That we do not concede, of course, but if there is any such value the company cannot get it. Our Court

has repeatedly held in cases of eminent domain that where the petitioner is entitled to full value he can recover an excess above market value. That was held in the cases *Mr. Green* cited in the 98th Massachusetts, and in the case of *Lawrence v. Boston* in the 119th, and finally in the case of *Beale v. Boston*, the last one of the series, and there are others.

The theory, Mr. Chairman, as I understand it, is this: that market value is full compensation in a case of eminent domain, wherever the petitioner could sell the property for enough to enable him to replace it, and put himself in the position he was in beforehand. But where the market or selling value of a property is less than that, he does not receive the indemnity he is entitled to under the constitution unless he gets more than market value.

It is difficult, we think, to escape the conclusion that there is that distinction in the law, if you will read the three cases that I have cited and others that might be cited in this state. The difference between market value and full value is distinctly made the basis of those decisions. We consider that this is an important point in this case, in the event that it should be claimed that there is inhering in this particular property a value greater than market value. We cannot see how that is practically possible; but if it is, the Company cannot get it. Or, to put my proposition a little differently and in such language as will avoid the use of the expression "market value," because it is possible to juggle with that as with any other legal expression—if there is any value in the Company's property in excess of what the Company could sell this plant for to a purchaser having occasion to use it and a desire to buy it, the Company cannot get this excess value. We do not concede that there is any such value possible; but if there is, the Company is not entitled to have it.

And that leads me to consider this possible question, why should not the Company be entitled to such excess value if it would have such right, as we concede, in a case of eminent domain? The answer is that this is not a case of eminent domain. No proposition in the law is better established than that. This is not in any legal sense a taking of the Company's property. Brother Goulding said yesterday that the city had elected to purchase this plant. I beg the Court's attention to the fact that the city has done nothing of the sort. The city does not want the

Company's plant, it does not want anything to do with the Company or its property; it simply wishes to establish a plant of its own. The Company is the party that is forcing this case upon the attention of the Court. It is the Company that is forcing the city to buy, not the city that is forcing the Company to sell. That follows from the language of the act. It is so stated in distinct terms.

Mr. GOULDING. How does it follow from the language of the act? I have got to reply to you. I should like to hear on some principle of human reason, how it follows from the language of the act.

Mr. MATTHEWS. It follows in this way, Brother Goulding, because the act says that the city shall, as a condition of being permitted to establish a municipal plant of its own, be compelled to purchase the Company's plant if the Company so elects. That is the language. It follows, therefore, from the language of the act itself.

Now that my brother has suggested it, I will comply with his request, if I may accept it as such, and say a few words in support of this theory, if he would like to have me do it.

Mr. GOULDING. I should be very glad to have you show some theory in which you say that this city has not deliberately elected to purchase this plant.

Mr. MATTHEWS. We have deliberately elected to go into the municipal lighting business. That we have done under the authority of the legislature. And having done that, we become subject to the statutory obligation to purchase the Company's plant if it elects to sell it to us. There is no legal compulsion upon the Holyoke Water Power Company to sell its plant, and there is, as a matter of fact, no practical compulsion. They could run their own business just as well without endeavoring to foist this ancient gas works and this unsuitable electric light plant upon the tax payers of Holyoke at fictitious valuations. They could keep their plants; we do not want them. They could prosecute their business, and we should be only too happy to permit them to enjoy in perpetuity all those undeveloped opportunities for the improvement of their business of which we have heard so much in this case. We do not want, as a matter of fact, anything to do with their plant,

the whole of it or any part of it. This whole case is a proceeding in invitum against the city. It is so far from being in practical effect—I am talking now simply about the practical effect of the proceedings—so far from being in effect a taking of the Company's property against its will, that it is in reality rather a taking of the property or money of the tax payers of the city of Holyoke against their will for the benefit of the Holyoke Water Power Company under the terms of a clause introduced into Municipal Lighting Law for the benefit of private corporations under these circumstances.

There is no compulsion in fact. The city of Holyoke had an idea that it would like to build a municipal plant to light its streets with electricity, nothing further; and thereupon the Company took advantage of the option given it under the law to unload not only its public electric lighting plant, but its commercial electric plant, its gas works, and also, if it could, a water plant and water power. That is what this case in fact is—nothing but an attempt by the company against the will of the city to unload a lot of its unsalable property upon the tax payers of the city.

Now, what is the law about the case—about that aspect of it? The law was supposed to be absolutely settled, that such a proceeding as this was not in any sense a taking of the Company's property. That was said by our Supreme Judicial Court in so many words in the Wakefield case:

“The legislature might have authorized cities and towns to erect and maintain such plants without requiring the cities or towns to purchase any existing plant of this kind belonging to private persons or a corporation, but it has not done so. Under this statute a city or town is not required to establish any such plant and private persons or corporations are not required to sell to any city or town any existing plant. In this respect there is nothing compulsory in the statute.” (*Citizen's Gas Light Company v. Wakefield*, 161 Mass. 432, at page 439.)

It was held in that case that the company was not entitled to a trial by jury, as it would have been entitled under our state constitution and the decision in the Salem Turnpike case, if this statute had in legal effect operated as a taking or condemnation of the company's property.

Now the Wakefield case was simply the last of a long and uninterrupted series of judicial decisions, beginning with the Charles River Bridge case, to the effect that where the legislature, or some subordinate branch of the state government acting under its authority, has granted to a private individual or corporation a charter to use the public streets or to engage in any business requiring a franchise from the state, there is nothing in the law to prevent the legislature from subsequently authorizing competition in the same town, either by chartering another private company to do the same business or by permitting the town or city itself to do it. That was settled in a long series of decisions which we shall submit to the court at the close of this case, or earlier, if anybody desires it. There was no judicial dissent from the proposition that the existing company was entitled to no compensation of any sort by way of compulsory purchase or otherwise, until Mr. Justice Colt thought otherwise in the action brought in the Circuit Court of the United States for this district by the Newburyport Water Company after the decision in that case by the state court. That decision of Judge Colt, I think, was received with universal surprise at the bar, and has since been overruled by himself. The Circuit Court of Appeals, Judge Colt himself writing the opinion, has just reversed his former decision and has held, in conformity with the uninterrupted line of authorities, that the Newburyport Water Company, under a similar statute, was not in the position of a corporation the property of which had been taken by eminent domain.

The CHAIRMAN. It struck me in reading Judge Colt's two opinions that he was right—somewhere.

Mr. MATTHEWS. Yes, sir, I should say that was a fair criticism—that he must have been right somewhere. Having been on both sides of the question as emphatically as he could both times, I think that is a very fair conclusion.

Mr. GOULDING. Is that case going to the Supreme Court?

The CHAIRMAN. I was told that it was going to the Supreme Court.

• Mr. MATTHEWS. When the case gets to the Supreme Court I do not think the plaintiff will get much satisfaction. That is anticipating, however.



It was suggested that the attempt to put in the cost of the new plant—I use the expression “new plant” in distinction from the cost of constructing a new plant along the lines of the present plant—was in reality an attempt to value one piece of property by giving the value of another. It was said that you could not prove the value of lot A by showing the value of lot B. Now, while that illustration is a good one, we doubt if the general rule was properly stated. You sometimes can show the value of the property in question by showing the value of other similarly situated property. That can be done in regard to water power. It has been held that you can prove the value of water power in one city by showing its value in another city under similar circumstances. But that is not what we are trying to do. We do not ask our witnesses to testify to the value of this new plant except to the extent that they may have used that as one of the data in forming their opinion of the value of the Company’s plant. When we offer this line of evidence as an independent fact to be taken by this court into account in forming its decision, we offer not the value but the cost. And we say that there is no difference between the cost of a plant built upon suitable lines, in a suitable way, as an aid to the determination of the court, and the cost of a plant built upon the identical land owned by the Company and following the identical lines of the existing plant. That, I think, is all I wanted to add.

*Argument of Mr. GOULDING.*

May it please the Court: I have not desired any discussion of this question at the present time, and had not thought it was likely to advance the hearing, either in abbreviating or extending or clearing up anything. The evidence is now on the record for a certain purpose, against our objection and with our right, as I understand it, to raise the question at the completion of the case that it was not competent even in the limited way in which it was introduced as the reason given by an expert for his opinion on the valuation. Now that proposition is one which I need not expatiate upon. We have taken our position about it, and probably in the concluding argument of the case further reference will be made to it. But I do not feel myself so absolutely sure that such evidence as that might not by the Supreme Court be deemed such evidence as an expert might give as a reason. He might explain his theory. He comes having a superior knowledge to the tribunal, which he derives from some source in the universe, and why may he not, it may well be said, why may he not give the reasons and the processes by which he has reached that mysterious conclusion which is beyond the knowledge of the Court until they hear him state it—that is, it is not within their ordinary knowledge; why may he not state the reasons and processes by which he reached it? That seems to be a very plausible way to view it, and I was not surprised that the tribunal was rather of the impression that for that limited purpose, or, as it may be said, a necessary thing to an expert's evidence, it might go in. But the respondent is not content to let it rest there, even, till the end of the case, but wants a peremptory decision.

In travelling from here to Worcester and attending to many other things that I have to attend to every day when I go to Worcester, I have not been able to make that preparation which I should deem important and necessary in a case of this nature upon a vital piece of evidence. I know we must necessarily be prepared to deal with evidence as it comes up, and if we object to it, state the grounds of our objection; and if it is admitted, as it has been here ordinarily in all cases, pretty much all the evidence, subject to final argument or discussion, there is no need

of any very great preparation. But however that may be, I propose to submit briefly my views, without pretending to argue this thing with a fulness and completeness such has been exhibited on the other side, on the question that is now submitted to the court.

The proposition is that for the purpose of ascertaining the fair market value of this property, it is competent to erect in the imagination on some other piece of land, a plant not like this plant, not resembling it in size, not resembling it in details, not resembling it in any respect, except it shall be a plant which shall be fitted and suitable in the opinion of the expert to supply the city of Holyoke with gas.

Mr. MATTHEWS. And of substantially the same capacity.

Mr. GOULDING. And of substantially double the capacity, according to the witness. My friend says the same capacity; I understand it double the capacity. That is not very material. It is not the identical plant, it is not a plant like it, and it resembles it only in the one particular—that, in the opinion of the witness, it will be suitable for the purposes of furnishing the city of Holyoke with gas.

Now it further is proposed, when that imaginary plant is erected on paper, to value it and to get at the value of the plant in question by the witness' opinion of the value of that. Now it will not do for my friend after the evidence of Mr. Davis is before this court in writing and his schedule is here—it will not do for my friend to say, as he says in almost his last sentence, that they put in the cost of it and not the value of it. They put in the value of it, and the witness testifies that it is worth \$75,000 more than the plant in question. Why don't they put in the value of it? They put the value of it in and show that it is worth \$75,000 more than the plant that we are inquiring about; and that is one of the processes—it is the process—by which the witness gets at his valuation of this plant.

Now, not to enter upon any too extended discussion of this question, let me follow in the footsteps of my illustrious predecessor in the argument, *pari passu*, but in the way to get there if I can. I understand that he does not claim that that kind of evidence is competent at common law. I do not understand that he cites any case anywhere that has ruled that such evidence as that, evidence resembling that, evidence of an ideal plant, a plant

constructed in the mind, is competent evidence. But he argues that its competency arises out of the peculiar character of this statute. He finds in this statute a basis and a ground for this evidence, and not elsewhere; not in the common law. The instinct of the common-law lawyer says, the idea of undertaking to put a value, or cost—which is worse—to put a cost, which is even worse, for cost ordinarily is not evidence of value—on a piece of property that exists nowhere, and ask the expert how that compares with the property in question, is inadmissible. The instinct of the ordinary lawyer says no, because you cannot even put in the value of a real existing plant. You can put in the sale of it only.

Now, then, it becomes important to see. It is said that this statute, in other words, enlarges the rule of evidence; that this statute has something in it which opens the door to evidence which was never heard of before as being competent and dresses it in the robe of competency in the court. Now, where do you find in this statute any words that justify any such conclusion? Not to read the first part of it, we come to the question of damages. I think the sentence beginning as follows is the first place where you would find anything that anybody could claim would warrant any such conclusion:

“If the main gas works, in the case of a gas plant, or the central lighting station, in the case of an electric light plant, lie within the limits of the city or town which has voted to establish a plant as aforesaid, such city or town shall purchase, as herein provided, the whole of such plant and property used in connection therewith lying within its limits, and the price to be paid therefor shall be its fair market value for the purposes of its use; no portion of such plant to be estimated, however, at less than its fair market value for any other purpose, including as an element of value any locations, or similar rights, acquired from private persons in connection therewith, plus the damage suffered by the severance”—

—which has nothing to do with this case.

Now, there is so much. I think we shall have to pass on before we reach anything that has anything to do with the estimate of damages.

“Such value shall be estimated without enhancement on account of future earning capacity, or good will, or of exclusive

privileges derived from rights in the public streets. If the main gas works or central lighting station of such a plant do not lie within the limits of the city or town which has voted as aforesaid, then such city or town shall only purchase that portion of such plant and property which lies within its limits, paying therefor upon the basis of value above established, but without allowance of damages on account of severance of plant. No city or town shall be obligated by this section to buy any apparatus or appliances covered by letters patent of the United States or embodying a patentable invention, unless a complete right to use the same and all other apparatus or appliances necessary for such use within the limits of such city or town, to such extent as such city or town shall reasonably require such right, shall be assigned or granted to such city or town at a cost as low as the cost of such right would be to the person, firm, or corporation whose plant is purchased. No city or town shall be obliged to buy any property added to a plant unnecessarily after the passage of its first vote that it is expedient," and I want, lest I should forget it, to call your Honors' attention to that thing, who made the election to purchase this plant,—“No city or town shall be obliged to buy any property added to a plant unnecessarily after the passage of its first vote that it is expedient to exercise the authority conferred in section 1, nor any property except such as shall be suitable for the ordinary business of the vendor which the city or town may assume; and if any property or plant which the city or town shall be entitled or obliged to buy under this act will not be available to the city or town if purchased, by reason of liens, interests of third parties, private contracts or other cause, whereby the city or town purchasing would be at a disadvantage in the use of the same as compared with the vendor, the city or town may be released from buying the same.”

Now, where is the phrase in that statute which any reasonable man can stand up and say opens the door and widens the door of evidence? I can see, and your Honors can see, that in one or two particulars more or less important, which my friend has laid hold of, it restricts the rule of evidence and excludes evidence that would be otherwise competent, but where is the door which opens and lets in any evidence which was before incompetent? I submit to your Honors that it does not appear; that the concep-

tion that that twelfth section of the statute, the municipal lighting act as amended by the act of 1893, opens the door to let in evidence that otherwise would not be competent, is a conception that is not founded on anything that is found in that statute, and it has not been within the resources, the profound and extensive resources of my learned brother, to construct any chain of reasoning or lay out any path that leads the mind to any such conclusion. Well, that would be doing injustice to him if I did not say that he undertook to lay out such a path, and that path I want to examine a minute. Now, what is his argument? If I understand it,—I will state it fairly and fully as well as I can, I will not minimize it, I will state it fairly—I don't think there would be any advantage in starting it in any other way, I may not understand it, but according to my understanding I will state it. He says in broad terms upon the word "market," where it is in cases of eminent domain,—he says that the value is something more or may be something more than market value, something different and other than market value; in a case of a voluntary purchase or sale like this or in this statute the rule is different, because here you are confined to market value and can get no more. Well, what of that? I never dreamed until I heard the ingenious counsel on the other side some time during the beginning of this case—I never dreamed, and I believe my associate never dreamed, that anybody pretended that we could get anything more than a fair market value for that property. I have not been so instructed; I have not come here to advance the proposition that we can get anything more than the fair market value of that property, and I have not pretended to discuss the question, in the face of the Newburyport decision as it now stands, whether this is a taking by eminent domain or not; I concede at once, of course, that the highest court of this Commonwealth has said in the Newburyport case it was not a taking by eminent domain, and it appears now that the Circuit Court of Appeals has approved of that decision. Whether that question is finally at rest, and sleeps the sleep of the just, or whether it will arise and get itself righted in another court above, there is no occasion for me to say. But I have said, and said it several times in my impulsive way, which is always excused on the part of my opponents when they come to think of it,—I have said in my way several times that it was

beyond the ingenuity of man to make any distinction in respect to evidence of value between the cases of eminent domain and the cases of voluntary purchase, as this is, under the laws, impossible—impossible as it seemed to me,—I know that is a phrase that my friend uses a good deal,—a thing that is impossible to escape. We cannot escape; we are in a net, you know, like the net that Mercury threw around Mars and Venus, and called all the gods to witness.

Mr. GREEN. You are not posing 'as Venus, are you?

Mr. GOULDING. And my friend likewise has us chained by a network around us, and about every five minutes recurs to the impossibility of escaping from his conclusion. Very well. I remember it was Vulcan that put the chain around, my mythology is somewhat faulty, but you will correct me, but I remember that Mercury remarked to the gods when he saw the situation that he would just as soon be put in Mars' place as not. Well, now, that is our peculiar situation; we are caught in a trap that we are perfectly comfortable in. We can go out all ways and in all directions, and are perfectly happy to be in the position in which they place us.

But, now, what is the next step to that? Having now laid down the proposition that market value is the rule in cases like this, and not the rule in cases of eminent domain, he proceeds next to this proposition: He says that market value always means a sale. I have heard that before, that the definition of a market value is what a willing purchaser will pay a willing seller, and that is the rigid, absolute definition of it, and you cannot get market value unless you get what a willing purchaser would pay to a willing seller; unless you can have that proposition laid down you can never reach market value, and you have got to do it that way, and because, he says, you have got to get at what a willing purchaser would pay to a willing seller for it, and what a willing seller would sell for,—until you get that, (because you have got to get that,) you can get nothing whatever. And the case of *Lawrence v. Boston* is cited, which is probably the most overworked case that ever was decided by our courts—there never was a little donkey that did not weigh over 175 pounds loaded with such a burden as that poor case of *Lawrence v. Boston* is loaded with. You would think that the Supreme Court, by Chief Justice Shaw,

or somebody of wide fame and great ability had sat down at length to define what market value meant in that case, and that our Supreme Court was behind the proposition that the only definition of market value is what a willing purchaser would pay to a willing seller. Well, now, I am going to submit to you, as I have submitted to at least one member of your Commission before, that the proposition is merely an identical proposition. It advances you not at all; it is equivalent to saying market value is market value, for who is this purchaser, this willing purchaser, and this willing seller, and where does he live? Can we call him on to the stand and ask him what he would pay? Can we call the seller and ask him what he would sell for? Does he exist anywhere? No, he don't exist anywhere. He is in your mind's eye, Horatio, with the accent on Horatio in pronouncing it as though you were sneezing. He don't exist.

"Somewhere in desolate, wind-swept space,  
In twilight land, in No Man's land,  
Two hurrying shades met face to face,  
And bade each other stand,  
'And who are you?' quoth one, agape,  
Shuddering in the gloaming light,  
'I know not,' said the other shape,  
'I only died last night.'"

These are like the shapes that they conjure up, and tell us that the willing purchaser and the willing seller are the only definition. Now, that poor case I have got here, that on which they found their whole decision, and say that it is an opinion given by our Supreme Court in the final definition of market value, and, do you know, the Supreme Court spent two lines and a quarter in deciding that question—just two lines and a quarter. Judge Putnam, who, whatever else he was, was never, I think, in his lifetime known as a supereminent jurist, although he was an entirely competent judge, made no pretensions to be anything different from what he was, but he is the great jurist who has finally laid down the definition of market value. Perhaps this is a grotesque exaggeration of his real merits, which are good. I know sometimes you don't do a person a service by trying to make him too big; you want something of the rule of perspective in your mind, and if you undertake to put an unfit man in a position that is too



elevated, you don't do him any service; you do him a "dis-service." This was a case, and I want you to understand it was a case of eminent domain, a taking of land for the purposes of widening Water Street in Boston. Without going through the evidence in the case, let us come to the judge's instructions, in which is found this amazing nugget, this splendid diamond out of the mine. That is a definition of market value which is conclusive. By the way, I believe nobody has ever used the phrase, the Supreme Court has never used the phrase, certainly in laying down any definition of market value, but the judge instructed the jury as follows:

"The value of the leases,"—it was a leased property,—*"is their market value; 'market value' means the fair value of the property, as between one who wants to purchase and one who wants to sell any article, not what could be obtained for it under peculiar circumstances,"—not what could be obtained for it under peculiar circumstances,—*"when a greater than its fair price could be obtained; not its speculative value; not a value obtained from the necessities of another. Nor, on the other hand, is it to be limited to that price which the property would bring when forced off at auction, under the hammer. It is what it would bring at a fair public sale, when one party wanted to sell and the other to buy. The fact, therefore, that one of these lessees, Lawrence, as has been argued by his counsel, did not want to move, wanted to stay there, would have paid a very large sum to stay there, is not a test of market value, because it is not a case of one who wants to sell and one who wants to buy. If Lawrence had wanted to go out, the question is, what would his lease have brought? Not what it would have been worth to him if he had wanted to stay there, because it may have been of greater value or of less value to him than its value upon the market. That simply determines its value to him, not its market value. The question for you to consider is, if Lawrence wanted to sell this lease, what could he have obtained for it upon the market, from parties who wanted to buy and would give its fair value?"

No specific objection was taken to this charge, but the counsel for the petitioners then asked the judge to give this instruction: "In determining the value of the leasehold estate, the jury are to consider among other things the amounts which persons desir-

ing to take the leases would be willing to pay for the same, not excluding from such consideration the amounts which the petitioners themselves would give."

The judge stated that he had no objections to giving this instruction, with this modification: "if the petitioners are in the market for the lease; but if they, rather than be turned out, would give more than anybody else, that is not the market value of the lease," and did so give it. The counsel contended that it should be given without the modification; and excepted to the refusal of the judge so to do.

Well, now, Judge Putnam is talking perfectly good sense. The contention was, what this lease was worth would have been not the market value, but what the lessee, Lawrence, valued it at, what it would be worth to him, who wanted to stay; it is that state of things that he is dealing with. Now, he did not advance the definition of market value one inch; he simply said market value is market value, that is, what it would bring in the market, what it would bring when there is a willing seller and a willing purchaser, or a person who is willing to sell for a fair price, and a person who wants it bad enough to pay a fair price.

Well, now, how does that advance you on the question what those leases were worth? Suppose that is the only evidence in the case. How does it advance you one single inch? It is nonsense. Can you ask a man on the stand, What do you think a willing purchaser would pay, or a willing seller take, unless he is an expert that knows sales, and says that is the market value, but it is wholly imaginary; the willing purchaser don't exist. The language of the judge is in the potential mode, what would it be. Who knows what would be? Who has opened the door into what would be? Who has gone into the future to undertake to tell, unless it is Alice in Wonderland? Who has ever gone through that door? Why, when you look at it, he was merely stating an identical proposition, that market value is market value; that is all there is to that, but he is not defining the thing finally, for all time, in order to ascertain what the market value of a particular thing is; he did not advance an inch in that direction.

Well, now, where is the decision of the court by Gray, Chief Justice? I have said that they took two lines and a quarter. I

am wrong; they took two lines and about one-fifth, and these are the words: "The instructions to the jury were such as have been usually given in similar cases in this Commonwealth, and were correct and sufficient." There was not any question whether they could offer any other evidence or anything of that sort in this connection. Market value, sir, is not what you would give for it; it is what anybody would give for it. That is all the court said. Now, it does not define market value, and market value has been defined by abler judges than the *nisi prius* judge who held that court, though by no more amiable judge, by no more competent judge in the business in which he was engaged,—and I don't mean to slur anything that Judge Putnam said, because he was a friend of all of us, and not only a friend of all of us, but a competent judge to try cases.

I not having time to look this up, had to refer to something that I had looked up before, and I say that in numerous cases in this Commonwealth and out of it the definition of market value has been given which throws light upon this subject, and which shows that the definition, if you call it a definition which was fitted for that case which Judge Putnam gave, is not the full and sole definition of market value, and is only another way to state market value.

Market value—market refers to something sold, of course, but not in the transferred or secondary sense. Now, the first case I cite is *Chase v. Worcester*, 108 Mass., page 60, 67. I suppose the reporter will take these citations?

Mr. GREEN. *Chase v. Worcester*? Will you give that again?

Mr. GOULDING. *Chase v. Worcester*, 108 Mass. 60, 67, where the court speaks of determining value. Judge Wells says that the court speaks of the method of determining value as capabilities whether for sale or for valuable use in that condition.

Let me refer to some Massachusetts cases before I go outside.

*Maynard v. Northampton*, 157 Mass., 218. There the same expression is used, that the value is the value for any use,—and these are eminent domain cases,—value for any lawful valuable use or for sale.

*Eastern Railway Company v. Boston & Maine Railroad*, 111 Mass., 125.

*Moulton v. Newburyport Water Company*, 137 Mass., 167, and

here the language used is "fair market value,"—fair market value. You will understand this was an eminent domain case. The party is entitled to the fair market value in view of all the purposes which it was naturally adapted to,—to which it was naturally adapted, is the substance of it there; the market value in view of all the purposes to which it was naturally adapted.

This is repeated verbatim in *Providence & Worcester R. R. Co. v. Worcester*, 155 Mass., pages 35-41.

It is also referred to and repeated in almost the same words in *Drury v. Midland Railroad*, 127 Mass., 571.

Also, the case of *Hovey v. Grant*, 52 New Hampshire, 569.

Mr. GREEN. Will you give me that again?

Mr. GOULDING. *Hovey v. Grant*, 52 New Hampshire, 569. That is the way I have got it cited. The court says, by Chief Justice Doe, the justice at that time, "Perhaps the owner cannot sell, and yet it will be productive of great benefit, and therefore would be of great value without a sale."

I referred to *Fales v. Easthampton*, I believe, before. *Fales v. Easthampton* is another case, 162 Mass., 422.

I will also refer to *Sedgwick on Damages*, 8th edition, sections 252-3.

Mr. GREEN. Will you give me that again?

Mr. GOULDING. *Sedgwick on Damages*, 8th edition, 252-3. It was said there, "Where a building was equipped with power and fitted for a machine shop, but was used by the defendant merely for storage, the owner in an action for use and occupation was allowed to recover the value of the premises as a machine shop, not merely its value for storage."

I cite now *The Boom Company v. Patterson*, 98 U. S., 103-107. Now, let me read this, which is entirely decisive of this question whether there has got to be a sale or not, or whether you have got to look to the sale only—totally decisive unless the Supreme Court don't understand what they are talking about:

"Property is not deemed worthless because the owner allows it to go to waste, or to be regarded as valueless because he is unable to put it to any use. Others may be able to use, and make it subserve the necessities or conveniences of life. Its capability of being made thus valuable gives it a market value which can be thus readily estimated."

Here is the whole philosophy in a nut-shell. Aristotle could not have stated it clearer than it is stated there. "Its capability of being made thus valuable," that is, for use, "gives it a market value which can be thus readily estimated." "So many and varied are the circumstances to be taken into account in determining the value of property condemned for public purposes that it is perhaps impossible to formulate a rule to govern its appraisalment in all cases."

Now, I think that list of cases, which is only a sample out of scores of them, will settle the question that when property is taken for a public purpose, as when it is purchased and the fair value is referred, or when it is partially taken, that the value of the property which is to be dealt with in a court like this or in a state like this where there are no punitive damages,—I think that will settle the question that market value is merely the value, that is all, the value of it, the fair value, which is to be ascertained not alone by sales. If you have a sale of that property at auction within three or four years, that is not the would-be case that is referred to in the reports, but that is evidence of the value of it, a sale of the property. If that line of cases don't determine the proposition as to value in eminent domain cases and in cases of voluntary sale, where it comes before the court, then it would be impossible for any line of cases to decide it, and nobody has cited any case anywhere yet that in any way militates against it, but, as though the thing was not plain enough that market value means value for valuable use as well as for sale, and principally for use, because you often, and generally in cases of real estate, don't have any sale that is entirely decisive, but you can always tell what it can be used for,—as if it were not sufficient, this line of cases that I have cited, we have the statute itself, which says: "It shall be paid for at its fair market value for the purposes of its use," and my friend on the other side, rather to my surprise, admitted that that meant for the use of the vendor, the market value, the market value for the purposes of its use. That is what my friend says it means.

I did not know but he was going to introduce this mythical personage, this willing purchaser, who goes roaming around through the spaces of the universe, and has never yet been fixed in any one place. I did not know but he was going to say it was his uses.

Mr. MATTHEWS. I thought I did.

Mr. GOULDING. I think my learned friend said it meant for the uses of the vendor. He now says he meant to introduce this imaginary person, this willing purchaser, this man that has his house in the potential mood and resides somewhere on Perhaps River—he means him.

Mr. MATTHEWS. If you would permit me to clarify your ideas on the subject I will tell you exactly what I did mean to say.

The CHAIRMAN. Mr. Matthews has the close.

Mr. GOULDING. My ideas are hopelessly beclouded if anything my friends have said on that subject has any foundation in the law; there is no use to try to clarify them. What I am trying to clarify is this tribunal, to make them clearly see what my position is, that is all.

Mr. GREEN. None are so blind as they who will not see.

Mr. GOULDING. Anybody that can see any sense or soundness in the argument which has been addressed here in the opening must be able to see more than Sam Weller could have seen if he had had the five thousand magnifying glasses instead of the eyes which he said he did have. Anybody who could see through that opaqueness must have clearer vision, I think, than anybody that is present.

Then it goes further and says that no portion of such plant is to be estimated, however, at less than its fair market value for any other purpose. So that you have got market value defined in this statute. It is market value which is value and nothing but value, as for any uses that it can be put to, whether of the vendor or the imaginary willing purchaser or for any other purpose, and that is the measure of market value.

Now if that is so the bottom drops out of the whole argument of my learned friends. If market value which is referred to in the cases on eminent domain means market value, and market value wherever it is found means fair value, then the bottom drops out of the whole of it. What is the phrase of the constitution? A man is to have a reasonable compensation for his property that is taken for public uses. And the courts, from the beginning of the reports in this State, have always dealt with the question of damages, where property is taken by eminent domain, as a

question of the fair market value as at the time of taking. This very case that they cite, *Lawrence v. Boston*, is one of those cases, and simply says that it is fair market value at the time it is taken, and not what the owner himself puts upon it or would be glad to give for it. It is what anybody would give for it.

I need not dwell, and I am not going to dwell, upon the inclusiveness of any such evidence, whatever you say about what market value means. In this case we admit what our friend contends. We admit it fully, as far as I am concerned, and I have had no other instructions about it. We admit we can get only the fair market value of this property for its uses or for any other purpose; that is all we can get. There are some restrictions in the statute which we shall deal with when we get to it, as far as evidence is concerned, but upon the question of value I will not dwell upon the inconclusiveness of such evidence as this.

Why, my friend who is associated with me made an epigram which your Honor repeated, and it is an argument that utterly, in my view, smashes any argument that has been adduced here as to the competency of this evidence. We do not have any argument, we do not have any illustration, to any extent. We have assertions that are made with great force and emphasis. But, so far as any argument is concerned, does not the phrase of my learned associate meet it? You cannot compare it with the value of the actual, a fortiori you cannot with the ideal—with the mere ideal. That is all I wish to say about it. Does it not introduce as many collateral issues as there are witnesses who are called here? Here is Mr. Davis, an excellent, serene old gentleman—or young gentleman; perhaps he is not as old as I am, but I have got to be so old I can call these fellows old men without offence. He is a sedate and serious minded gentleman who comes on to the stand here, and he erects an elaborate plant. With the value of that plant he compares this, and arrives at his conclusions, and they want you to arrive at your conclusions with reference to the cost and value of that in that way. He gives both. He gives us the cost and then says how much it is worth, \$75,000 more; that neither of them are going, and therefore he allows \$20,000 to us because our plant is going. Does it not introduce as many trials as there are witnesses? Are we bound by his formidable maps? Here are seventeen maps, and

a specification covering 30 or 40 pages—I don't know exactly how many; specifications from about the 30th to the 67th page of his schedule here. Are we bound by those? Cannot we go through and try that case? How much is that property worth, that imaginary property that exists nowhere? Cannot we call as many witnesses as we want to to show that that imaginary plant of his would not be worth as much?

Then comes the next witness. I don't know who he will be—Mr. Main, perhaps, or some other gentleman; and Mr. Main will erect you another plant somewhere else. He may not do it in Holyoke or he may do it in Holyoke, and he will give you another elaborate demonstration of what you can do with that ideal plant. Are we bound by it, or can we call witnesses to meet it? And when we call witnesses to meet it, what is the difference between trying that imaginary case and this, as far as time and everything else is concerned? Why isn't the answer sufficient that is always given when you offer to show—or when we used to offer to show, before the new law had been settled by a list of cases too long to cite—when we offered to show what the worth of another piece of property was that might be similarly situated, and couldn't do it? You had two twin houses and one was taken and the other left, like the women in the Scriptures. One is taken and the other is left. They are just as alike as two peas in a pod, and yet it is entirely clear law, that nobody will dispute, that you cannot call the wisest expert in the world and ask him, "what do you think that house was worth that wasn't taken?" There is objection, and you cannot ask him, "What is that house worth—the other is taken and gone." Of course you cannot. Why? Because it introduces a collateral issue, and you have got to try the other house. I am elaborating a little what my friend compressed into a sentence—compressed into an epigram. I will elaborate it a little. And is it not true that if you cannot give the value or tell what the cost was of another house that is just like it, you cannot give the cost or the value of an ideal thing that never existed anywhere in the world?

There is one branch of the argument that is still left, and to which I address myself. My friend says that after all, shifting around from the position where he first started, after all this is a thing that does not depend on this statute. Whenever you



offer any expert evidence, such as is commonly offered, you are really doing the same thing. You didn't know it. It is like that character in Moliere's drama that found he had been using verbs and adjectives and adverbs and all sorts of things all his life and never knew it, and was surprised when he came to find it out. So here my friend says, After all, do you know that you have been doing just exactly the same thing that I have been doing, or that I propose to do? He says it has been customary in this State for a long series of years to introduce the cost of reproducing a power by steam which before existed as water, and although I was not aware, and I am not aware, of any case where the Supreme Court have said that that is competent evidence, yet from the time of the Boston cases, and I don't know how long before, it has been the practice all through the cases, great lawyers have defended or prosecuted, and that has rather gone in by consent.

Mr. MATTHEWS. That has been held, not in this Commonwealth, but in other states.

Mr. GOULDING. I meant to say that I was not aware that our court had decided, and I was not even aware that any other court had decided it, because I had no occasion to look it up, but undoubtedly it stands at the bar as a piece of evidence that is competent.

Now, he says, You have done that same thing, and that is nothing in the world but erecting an ideal plant. That is all it is when you come to analyze it. Well now, is it? Let us look at it. I know the lively imagination of my learned friend, with his great learning and his logic, can turn anything by a trope or a figure of speech into something that is similar to another thing that everybody supposed was wholly unlike it before. But is it? What is the proposition? What is the evidence that has been put in? Why, it is this, isn't it? The city or town or whatever it is has taken away the water power. A man has got a plant. They have taken away the energy or force that was on the shaft. That is what they have done. Now it is impossible to get at exactly what the damage is. That is to say, the mind of man is limited; and as to what the precise damage in a particular case is, to get at it with absolute certainty, you cannot. You must look at it in various ways and see what you can do with this

property. What can you do with it? Now the evidence has been allowed that you can reproduce that energy, that power, which is the same thing throughout the universe—force, energy. It may take various forms: flame, motion, collision, heat. It may take various forms, but it is force, energy. You can reproduce it on that shaft by steam for so much money. Well, that doesn't settle it. It may not be wise to reproduce it. But that is evidence, say the courts, that is evidence on the question of what the damage is by the deprivation of that power.

That is as far as it has gone. And when my friend says that we constructed any fancy establishments or plants, I say that neither we, nor did our witnesses in any direct examination, do anything whatever except to show what it would cost to run that plant by steam with the appliances that they had there. It would have been competent undoubtedly to show how you could reproduce that energy there by some other engine; and in cross-examination it was brought out by my learned friends that you could run compound condensing, cross-compound condensing, and one thing and another of that sort, cheaper. Where? On that shaft. And he might have made them, for aught I know, reconstruct plants and test their capacity, but we never have offered any such evidence as that, not at all.

In the Worcester cases, which were tried for the defence, as your Honors well know, with the very greatest ability, an array of lawyers than which there never appeared an abler in this country for the defence than in those cases, what were we allowed to put in, and what did we put in? We put in the value of power. Our theory was that this energy had been taken away, and we put in what? Sales of it. How did they sell it up and down the valley? How much did they ask for it in quantities like these various quantities that we had before the Court? That was allowed. There was a contest about it, the learned counsel argued against it, but it was admitted and was allowed; and it goes no further than the case of sales of substantial property, that is, of property that you can see as well as feel. You can feel power, but you cannot see it.

Then my friend goes further and says that to testify as to what it would cost to reconstruct that identical plant then and there—that that is the same thing, that is constructing an ideal

plant. Now I respectfully submit, with the greatest respect for my learned brother, and the greatest admiration for him and all that sort of thing, dealing with his argument merely, I say that such an argument as that tends to block all discussion upon any subject whatever. It is to abandon reason and float off on a shoreless sea. You might just as well say that the historian who describes the French Revolution, or any other event in history, does not describe it. Of course he does not. He doesn't describe it—he doesn't reproduce it at all. What he reproduces is an image in his mind of the thing, and he tells it; it is something entirely different from the French Revolution; it is entitled to no respect whatever because it is merely his imagination; it is something that is entirely different.

You might as well say this table does not exist, and then you have got into the Berkeleyan theory, which we cannot stop to discuss now. Our mind cannot come to the table, the table cannot come into our mind, therefore it is an idea from the table that goes into our mind, and therefore the table is not proved to exist. All you know exists is the idea in your own mind. Now what is the use of such trifling as that? And that is the kind of reasoning we have in this matter in regard to reproductive cost. Why, they said, Here is your property, and on the question of what its market value is at the time it was taken, you could build it at that time for so much, right then and there, duplicate it, just exactly the same thing; the same thing, not a similar thing—not a similar thing in any practical sense. I know if you are going to go into the abstruseness of metaphysics you can say it is not the same thing, no more than the boy's jack-knife was the same when he had changed the blade and handle. But practically, for practical purposes, it is the same thing. What could you reproduce it for? It is stated that this is similar and affords a justification for the evidence of Mr. Davis and the other witnesses with regard to an ideal plant. It seems to me it is only necessary to state the argument to refute it.

There is one other thing. It is claimed with some emphasis that the city of Holyoke has elected to purchase this plant, and no argument that has been addressed to you in any way militates against it. Let us see if we can begin back and state a proposition that will be broad enough. I say that any person or corporation which accepts the option to do a certain thing upon

certain defined conditions elects the conditions as well as the principal thing. Now, to use the phraseology of my learned friend, how are you going to get away from that? When the city of Holyoke elected to go into the electric lighting and gas lighting business, it elected to go under this statute, which had a certain rigid condition; and the rigid condition was that if the Holyoke Water Power Company, which then had an electric and gas lighting plant, elected to sell to it, it was obliged to buy. Now accepting that proposition, with those conditions, was just as much an acceptance of the conditions as it was an acceptance of the main thing.

Put another little test to it. There is a horse trade which has been consummated, and there is a question whether the buyer or seller began the negotiations. Please your Honors, wouldn't it be decisive to point out which one first made the suggestion, acted in the premises? Who acted in the premises here first? Didn't the city of Holyoke act in the premises first? Was it staggering along in a blind way and not knowing what it was doing? Did it not act by an intelligent and prudent act of the will when it voted once, twice, that under the conditions of this act it would go into this gas and electric lighting? It knew the Holyoke Water Power had had for forty or fifty years a gas plant, and for many years, a dozen or more, an electric plant. It knew all about it. It knew that the rigid and rigorous and unescapable condition was that if it did go into it it must buy those plants, if the company simply complied with the law in filing its schedule and said it would sell it to them. Of course we know very well that they knew, under the circumstances, under the stress of such a competition, that the company would be obliged to. But my argument is wholly independent of that. They are the ones that are acting. They act first, under a rigid condition that they shall purchase this property if the seller will sell it. In other words, if he will sell it they are to purchase it. There cannot be any sale at all until the seller agrees to sell and the purchaser to purchase. They had no election about it afterwards. They had made their election; and the election afterwards, so far as that goes, was not in them, but they had made the proposition by going into the business.

Now that is what I mean by saying that they have themselves voluntarily proposed to purchase this plant. When we come to

discuss this question finally and construe this statute at large—and you may think if it takes so long to construe one phase of it it will take a good deal to construe it at large—when we come to discuss it as we have not in any full way yet, though my friends have discussed it every little while in the course of the case, we shall see that in many respects it means just the opposite of what they say. But we are now dealing with this aspect of it, and what I say is that the market value here for the purposes of use is just like the value that is talked about by the courts. There is no distinction between the two, and that discussion is wholly unwarranted.

Perhaps I ought to say one word about the tax cases. They have no relevancy whatever, I submit to you. We do not deny that the meaning is in the tax cases, as decided, that you have got to take the property and value it as a whole. I argued one of those cases and am entirely familiar with what was decided in those cases. Of course I tried to make the Court say that the value of the land, as the statute causes it to be valued separately from the buildings, was to be taken for whatever use it could be put to, and if worth three or four dollars a foot for building purposes, then it should be taken at that, although it was not worth that for mill purposes. I thought I had them puzzled a little more or a little less with that proposition, but they, as they do, have a way of jumping over the difficulties that you erect in their path, and said that the thing, in substance, should be taken in the whole, as it was, to be valued with reference to the use it was already put to, with reference to the mill, the cost of dismantling, etc. At any rate, I did not understand that the claim was anything more than they had decided that you should take the thing as a whole.

Now we do not take any different position with reference to this question, that it is to be taken as a whole, and we are willing that any competent evidence should be used to show what its market value was as a whole. There has been some evidence of value as a whole put in, but we say that such evidence as now proposed never was heard of before, as imaginary plants being erected and valued, and the value taken with reference to the value of this property that is under discussion, and being determined by reference to any such thing as that, and it is met by fundamental and simple rules of evidence that exclude it.

*Argument of Mr. MATTHEWS in reply.*

I have listened, Mr. Chairman, with much interest to the learned disquisition of my brother in the hope, vain as it seemed to us at the outset and vain as it has proved, that the counsel for the Holyoke Water Power Company would at last do what they have persistently declined during six volumes of printed testimony to do, and give us some practical test of market value. We have not heard it. We have heard general statements with which we have no fault to find. But we have heard no suggestion of any practical test of market value when you cannot apply the primary test of actual sales. Property of this sort is not bought and sold in the market, and we all admit that this test cannot be applied.

Mr. GOULDING. And yet that is what you have got to get.

Mr. MATTHEWS. I commend to your consideration the question whether the learned counsel for the Company has suggested a single test which will aid you in your deliberations. His argument is destructive. So far as it is constructive, it deals simply in generalities. He says there is such a thing as market value, but he does not tell us how we are to get at it, in the absence of actual sales.

On our side the difficulties of the situation are as fully appreciated; but we have endeavored to assist the Commission in its deliberations by suggesting some constructive, practical test of market value applicable to these cases. We suggest the test of the cost to produce a plant suitable for the purposes, upon suitable land, built in accordance with the best commercial practice, of substantially equal capacity. This we suggest as the best test that you can use, because it would be a test that a prospective purchaser would surely apply. We say that it is not in substance different from the test which is used by experts in water power cases. To that argument of mine, to which, as the Commission will remember, I directed my brother's special attention yesterday, all that we have heard in reply is that his witnesses did not do it, that all the evidence of this sort that had been given by his witnesses came out on cross-examination. Let us see if that is so. I have only had a few minutes to look the mat-

ter up; but I have found already three instances where it was not so. We have, for instance, the testimony of Mr. Tower, who gave upon his direct examination all the cost and details of a new plant in the city of Holyoke, capable of producing the amount of power involved in this case, or the amount that he said was involved in this case, by steam.

The CHAIRMAN. Whereabouts is that?

Mr. MATTHEWS. I will give you the reference. It is on pages 76 and 77 of Volume 6. The Commission will understand that this is work that I have done simply on the spur of the moment. I have turned to the testimony of three witnesses who, I thought, did the thing that Mr. Goulding said they did not do, and I find that they did.

Mr. COTTER. What page, Mr. Matthews?

Mr. MATTHEWS. Volume 6, pages 76 and 77. That is Mr. Tower.

The CHAIRMAN. Do you mind calling our attention to what Mr. Tower said with regard to that, unless it is too much trouble? We will look at it later.

Mr. MATTHEWS. Here are the schedules, the estimates.

The CHAIRMAN. Very well, we will look at it later.

Mr. MATTHEWS. It would take me ten minutes to read them.

The CHAIRMAN. Yes.

Mr. MATTHEWS. Now what Mr. Tower did is more instructive still—

The CHAIRMAN. Mr. Tower?

Mr. MATTHEWS. This was Mr. Tower. Did I say Mr. Green?

The CHAIRMAN. No.

Mr. MATTHEWS. What Mr. Tower did in this particular, I think, is more instructive than what was done by any of the other witnesses. He produced, on his direct examination, elaborate schedules, just as Mr. Davis has done, of his ideal steam plant—a perfectly proper thing for him to do, to which we made no objection. But let me call your attention to the fact that his steam plant was not the same kind of steam plant as that which was in operation by the Holyoke Water Power Company, but a totally different kind of steam plant. That, also, we thought

a perfectly legitimate train of evidence under the circumstances of this case. You have here a greater difference between Mr. Tower's ideal plant and the actual plant of the Holyoke Water Power Company, than there is between the gas plant of the Company and Mr. Davis' gas plant.

Now let me turn to another witness at random.

Mr. GOULDING. Mr. Tower used a non-condensing plant, did he not?

Mr. MATTHEWS. Yes.

Mr. H. A. Foster, Vol. 3, page 231, did in substance the same thing. That is, he testified in his direct examination to what ought to be the cost of producing a certain amount of power by steam in the city of Holyoke. That is all he said at that time; but in the cross examination, which I cannot refer to now by page, he gave his reasons, and among them was, of course, the hypothetical cost of this new plant, of this hypothetical plant. Otherwise he could not get his fixed charges.

Mr. GOULDING. I should like myself in any discussion to be sure that we are right about the evidence, and my understanding is that what he estimated upon was precisely such engines as we have there, non-condensing engines, and all his elaborate theories came out on cross-examination. I may be mistaken about that, but I do not want to seem, by being silent, to assent to my brother's statement.

Mr. MATTHEWS. I want to be perfectly fair. I think Mr. Goulding has in mind a fact which I do not want the Commission to think I have not in mind, too. The company's witnesses did two things: they first contrasted the cost of producing a certain amount of power by water at this plant with the cost of producing the same amount of power by the actual steam plant owned by the Company. That evidence I am not talking about at all; that was confined to the actual steam plant of the Company. But some of them did something else, and it is to that I wish to direct your attention, not because it concludes the Company on this question, which is a question of law, but because it is the obviously proper thing to do when you have not the test of actual sales.

The CHAIRMAN. Let me interrupt you long enough to give you an illustration from a case in which I was counsel, *Howe v.*



Weymouth, 155 Mass. I represented the petitioner, and he had lost so much horse power. In that case I called an expert to testify as to what the cost of a steam engine would be to put into that mill and represent the same amount of power. Thereupon, the respondent called witnesses to show that that steam power could be obtained by some additions that could be made to the machinery or the engine, a very inexpensive addition.

Mr. GOULDING. One thing I want to call my brother's attention to—

The CHAIRMAN. Just wait a minute, Mr. Goulding.

Mr. GOULDING. Beg pardon.

The CHAIRMAN. I will finish what I was going to say.

Mr. GOULDING. Oh, I thought you had.

The CHAIRMAN. No.

Mr. GOULDING. Pardon me.

The CHAIRMAN. I do not know that that case will be of any help, but I spoke of it because I happened to remember it.

Mr. MATTHEWS. Yes, I remember it.

Mr. GOULDING. I would like to call my brother's attention to one thing that occurs to me as we go along. If any such structures were imagined by Mr. Tower or anybody else, it was for the purpose of estimating the value of energy on the shaft—power—which is the same everywhere, and not for the purpose of putting in the value of those non-condensing or condensing or cross-compound or whatever not engines that he said he could produce it by. That is the distinction. If we had offered the value of those engines, it would have been one thing. The value of the power is universal; it is all alike.

Mr. MATTHEWS. But the object of Mr. Tower's testimony and the use that he made of this ideal construction of his was to put a value upon the Company's water power and plant. That was the final use he made of it.

The CHAIRMAN. You mean he produced the cost of the non-condensing steam engine, or some other kind.

Mr. MATTHEWS. Yes, as one of the data which he used for his estimate of value; and it also went into the case by itself as independent evidence.

Now in order that there may be no misunderstanding at all as to the kind of plant that Mr. Tower was creating in his imag-

ination at this period of his direct examination, namely, on page 76 of Vol. VI., I will read the head lines, which are as follows, written by himself:

"Estimate of the cost per annum of operating a compound non-condensing engine plant at Holyoke, Mass., in February, 1898, equivalent in capacity to 16 mill powers of water," etc.

This ideal construction of his, to quote my brother's phrase, differed from the actual plant in two particulars of great importance. The engines in his plant were compound, while in the Company's plant they are simple engines; and the capacity of the engines in Mr. Tower's plant was 16 mill powers, whereas the capacity of the Company's engines is only about 8; a little less or a little more, I have forgotten which. The site was different also.

So much for Mr. Tower. I have already called your attention to what Mr. H. A. Foster did.

Mr. COTTER. That was on what page, Mr. Matthews—Foster's evidence?

Mr. MATTHEWS. It is Volume 3, page 321. Mr. Foster did not give a detailed schedule, as Mr. Tower did, upon direct examination, but he testified to what the cost of producing power by steam in Holyoke ought to be, and that, of course, involved the construction, as appeared on cross examination, of some sort of a plant.

I turned also to Mr. Newcomb's testimony, and I found that he did the same thing on direct examination. You will find that at Volume 4, page 292 or 293. And I am quite confident that the rest of them did, too. I think that the earlier witnesses upon water power made these calculations in cross-examination; I think that Mr. Goulding is to that extent correct in stating that these estimates of the cost of non-existing plants were brought out on the cross-examination of the witnesses; but my recollection is that all the later witnesses, including those that I have just quoted from, particularly Mr. Tower, made elaborate calculations and estimates of the cost to construct some non-existent steam plant, and put them in as part of their direct testimony. That is a minor and collateral point, of course, which has no bearing upon the legal relevancy of this testimony.

The CHAIRMAN. Right here, Mr. Matthews, as long as I have stated what was done in the Gloucester case, perhaps a little detail there might assist the discussion.

Mr. MATTHEWS. Yes, sir.

The CHAIRMAN. There, some witness for the respondent was called and was asked the question what it would cost, using the same water source, to put in a plant independent of this plant. Mr. Morse did not object to it and it went in. The question never was discussed; I never heard it discussed.

Mr. MATTHEWS. So I have understood.

The CHAIRMAN. Mr. Goulding, in his argument in the Worcester case, discussed this question in a very interesting way. Perhaps you do not recall it, Mr. Goulding—the latter part of your argument in the Worcester case.

Mr. GOULDING. I am glad to know it was interesting.

The CHAIRMAN. No question about that; we all agree as to that. But there came up this proposition there: there was a factory in Worcester; some expert was called who testified that that factory was not worth what the petitioners had claimed for it, because at a more central place a factory of similar kind could be erected,—a better factory,—and such a factory as that could be erected for about one half the price, or something of that kind; and that question was discussed.

Mr. MATTHEWS. Was not that evidence excluded in that case?

The CHAIRMAN. The evidence was excluded in that case.

Mr. MATTHEWS. And that was a case of taking by eminent domain?

The CHAIRMAN. That was a case of taking by eminent domain.

Mr. MATTHEWS. That is in strict conformity with our views of the law. And that leads me, Mr. Chairman, to beg the permission of the Commission while I say just a word on what seems to me to be the total misapprehension that my brother labors under of our contention respecting "market value," and value "for the purposes of its use." It is very easy, as I said before, to juggle with any such phrase as "market value," and it seems to me, on listening to my brother, that his argument was little better than a juggle with those words. His argument

finally reduced itself to the statement that "market value is market value." His reasoning came to a standstill with this luminous conclusion. I do not think there is any misapprehension in the courts as to what market value is. Market value is, as defined, selling value. And while it is customary to use that expression in cases of eminent domain—you see all the time in the reports, that market value is the measure of recovery in cases of eminent domain,—it is, Mr. Chairman, in cases where it is not claimed that there is a higher value. But whenever in a case of eminent domain or a case of trover or a case of contract arising under an insurance policy, there is claimed to be a higher than the market value,—that is a claim to a higher value for the property than what it can fairly be expected to be sold for,—then in all such cases you find a sharp distinction drawn between market value and full value.

The CHAIRMAN. I must examine those cases, for I must confess, Mr. Matthews, that this is a novelty to me.

Mr. MATTHEWS. I would like, your Honor, to begin with the case that my brother Goulding carefully omitted to cite, the latest case on the subject—Beale v. Boston, 166 Mass., 53.

The CHAIRMAN. I have not read that.

Mr. MATTHEWS. Let us consider that case; for it is very instructive. That was a case of eminent domain, and the court at nisi prius instructed the jury that the petitioner could recover only the market value of his property. The verdict was set aside, because in that case the petitioner offered evidence that there was some value to that property in excess of market value; and the court held that he was entitled to put that evidence in. The court says this:

"The jury were thus limited"—that is, by the charge—"exclusively to a consideration of market values; and this, having regard to the nature and situation of the land taken, we think was erroneous. Ordinarily, where the value of lands or goods is to be ascertained, and they are of such a kind and so situated as to be available for sale in the ordinary course of trade or dealing, the market value is perhaps the best test, and under such circumstances it is usually adopted in this Commonwealth. But market value is not a universal test, and cases often arise where some other mode of ascertaining value must be resorted to."

And then follows a list of nine or ten cases, mostly in this state, where the test of market value has failed in its application to cases of this kind.

The CHAIRMAN. Will you read the cases, for I am interested very much in this discussion.

Mr. MATTHEWS. It does not very often happen, your Honor, that any property is claimed to have a greater value than what it is sold for. Those cases—would you like to have me read them?

The CHAIRMAN. No, just the names of them.

Mr. MATTHEWS. One is *May v. Boston*.

The CHAIRMAN. Yes, I remember that.

Mr. MATTHEWS. One is *Boston & Albany v. Cambridge*.

Mr. GOULDING. Don't you want it to appear on the record where they are?

Mr. MATTHEWS. Certainly.

*May v. Boston*, 158 Mass., 21, 29.

*Boston & Albany Railroad v. Cambridge*, 159 Mass., 283.

*Handforth v. Maynard*, 154 Mass., 414.

*Mather v. American Express Company*, 138 Mass., 55.

*Green v. Boston & Lowell Railroad*, 128 Mass., 221.

*Murray v. Stanton*, 99 Mass., 345.

*Stickney v. Allen*, 10 Gray, 352.

*Boom Co. v. Patterson*, 98 U. S., 403, 408.

*Reed's petition*, 13 N. H., 381.

*Troy v. Cheshire Railroad*, 23 N. H., 83.

I cannot cite to the court from memory the exact facts of those eight or ten cases. I have looked them all up; but I have no abstract of them here.

The CHAIRMAN. You need not do that, Mr. Matthews.

Mr. MATTHEWS. But I remember one or two that were significant; one or two cases, both of them in Massachusetts. In the first place, we have the case of certain plates or machinery which were converted. The court held that the selling value, the market value, was not the limit of the plaintiff's recovery, because they might bring on a sale only a few dollars as junk. And therefore they allowed evidence of the cost to manufacture those plates, the cost of reproduction. Reproductive cost itself, I may observe, only comes in by the back door, as it were,

when the front door to the valuation of property according to actual sales is closed. Reproductive cost is not itself value; it is only evidence of value, and it is not the best evidence, either. Actual sales are the best evidence; but in the absence of actual sales you can get in reproductive cost; and we contend that our evidence stands on the footing of reproductive cost.

Another case was this: an architect's plans were destroyed under circumstances entitling him to their full value. He was allowed to show the amount of time that he had spent upon them and to put in other evidence of the cost to produce them, in default of ability to show any fair value by means of a sale.

I think that the suggestion that I made the other day of an expensive private house is as good a one to enable us to see what the application of the various legal rules of value is.

The CHAIRMAN. I know you made that illustration; I could not for the life of me believe that any such rule could be applied.

Mr. MATTHEWS. Suppose I cite the case as it lies in my mind. Take the Vanderbilt house, Marble House at Newport, R. I., which I suppose we have all of us seen. That is a house that cost three or four millions of dollars, and if it were destroyed by fire I think the owner could recover from the Company the reproductive cost.

The CHAIRMAN. No doubt about that, but if it was taken by eminent domain?

Mr. MATTHEWS. If it was taken by eminent domain I think the rule is the same. I think in a taking by eminent domain the owner can get the value to him. But what would be the value of that house for purposes of taxation? What it would sell for, I apprehend, that is its market value. I think it is very clear that reproductive cost is the measure of damages in taking by eminent domain.

The CHAIRMAN. I do not think you are right about that.

Mr. MATTHEWS. Well, sir, I may not be.

The CHAIRMAN. Of course that is simply a difference of opinion between Mr. Matthews and myself, but as Mr. Cotter suggested, the case of *Boom Co. v. Patterson* goes to the extreme; and then there is a canal case.

Mr. MATTHEWS. *Boom Co. v. Patterson* was a case where

the United States Supreme Court said that the petitioner could show that the property was available for boom purposes.

The CHAIRMAN. Exactly.

Mr. GOULDING. And that gave to it a market value.

Mr. MATTHEWS. Now, in the case of the Vanderbilt house, I think the court would say that the owner could show that the house had a value for him to live in in excess of what it could fairly be expected to sell for, taking a reasonable time for the purpose. However, that is only my own view of the law of eminent domain. I may be mistaken about it. It is not very important to the consideration of this case, because the Company is limited here to market value; and that we understand to be conclusively settled by the courts as meaning the sum that the property could fairly be expected to sell for, taking a reasonable time and using reasonable efforts to effect a sale. That we understand to be the measure of value in this case, as in cases of appraisal for taxation, probate accounts, etc.

But the expression "market value" is not all that makes this evidence admissible. It is not simply because it is one of the things that a purchaser would want to know, and therefore evidence of market value in the absence of sales, that we claim that the cost of a new works is admissible, but also because it must be a test of the value of this property "for the purpose of its use," that is, for the gas business in Holyoke, whether it is run by the vendor or the vendee or anybody else. That is what the act means. And what better test of such value can we have than the cost of a new and proper plant? My brother said we were confounding value and cost. They are not confounded in my mind; they may be in my language. We have the value, it is true, as one of the data which our expert used in forming his opinion of the value of the Company's works; but all that we ask to have go into the case as a substantive fact is the cost. We maintain that nobody can ascertain the value of a gas plant for the purpose of manufacturing and distributing gas unless he contrasts it with reference to cost, suitability, arrangement and economy of operation with the sort of a plant that would be built for doing that business in that locality under the best commercial practice, or with a new and proper plant of equal capacity with the Company's plant, or that such a comparison, if not ab-

solutely necessary, is yet a most valuable aid in reaching the value of the plant for the gas business in Holyoke.

One word as to the case of the Tremont & Suffolk Mills, Lowell. That case has a very significant bearing, it seems to me, upon this discussion, because there the court rejected the very thing that the Company's witnesses have done in this case. They said that the property should be valued as a whole, and not according to the aggregate value of its component parts. In that case the witnesses for the city of Lowell, or the assessors, rather, took the land as worth so much, the buildings as worth so much and the machinery as worth so much, and they said that the value of the whole was the aggregate of those three sums. The court said no, that is not so, or it may not be so. The value of the property as a whole may be less than the aggregate value of its component parts. And yet that is exactly the process adopted by the Company's witnesses in this case. They take the value of the land considered as if no buildings were on it, at its highest value for any purpose as land unincumbered by superstructures. They take the value of the buildings by getting the cost to reproduce them new; and the same with the machinery. They then add these figures together. We maintain that they get something that bears no legal and very little practical relation to the fair market value of the gas works as a whole for the purposes of their use. We say that what they should have done was to consider this property as a unit, its availability, adaptability, and suitability for the purposes of its use, taking into account, if they chose, the cost of reproduction, but also such other evidence as a purchaser would be apt to use, including the estimated cost of an entirely new plant of substantially the same capacity, or of such capacity as the Company's plant ought to be at the present time and must be brought up to.

We also claim that evidence concerning the cost of a new plant is competent upon another ground—I don't know that I mentioned it before—and that is to show the defects in the Company's plant. We are entitled to depreciate this plant by showing that it is not a proper plant, not a suitable commercial plant; and what better means of doing that is there than contrasting the present plant, its arrangements, its layout, the character of its machinery, etc., with such a plant as would be constructed in



January, 1898, in Holyoke according to the best commercial practice then obtaining?

There is a final consideration that I would like to suggest, and that is, are we not entitled as a matter of law to a finding by this Commission upon any issue or fact? Are not the parties to this case entitled as a matter of practice to ask the Commissioners to find any fact which seems to them material? I said, as a matter of law, I should have said as a matter of practice. Must not that be the correct practice to follow in these cases? By that I do not mean, of course, that we are entitled to a final valuation upon that theory irrespective of its admissibility, but are we not entitled to a distinct and separate finding in the nature of an alternative as to what the cost of such a new plant as Mr. Davis has described would be?

Mr. GOULDING. Is not your question of law saved to you if the evidence is ruled out, as well as it would be if it was ruled in?

Mr. MATTHEWS. Possibly. I simply said it should go in as a matter of practice.

Mr. GOULDING. In regard to this case of *Beale v. Boston*, it was a case where the majority of the court, discussing the question whether the man ought to have been allowed to put in some evidence to show what the property was worth, use this language of market value and other value, *arguendo*, without undertaking to decide that market value is not ascertained by competent evidence of use at all; and if your Honors read the case, you will see that this is a running use of the phrase "market value" and "other value" without undertaking to say what the distinction is between them at all. But when we have come to the question of evidence, we have got in this case something that is a clincher, I submit, and that is this:

"The evidence offered by the petitioner to show the value of adjoining land by the opinion of an expert was rightly excluded. Evidence as to the value of other land is limited to actual sales."

So, whether it is market value or some other value that you are dealing with, there in that very case is the ruling that the value of other property—and I submit whether actual property or fictitious property—is confined to sales.

Mr. MATTHEWS. The Court understands that we ask to have the court find the cost, not the value, of this plant?

The CHAIRMAN. Yes.

(The Commissioners held a brief consultation.)

The CHAIRMAN. Gentlemen, the Commission certainly want to thank you for a very interesting discussion of the subjects. We think that this is a rule we can use just now. We would like the opportunity to look over this discussion and the evidence which led up to it. Perhaps some of it is competent, perhaps all of it is, but we want an opportunity to read and examine it. This witness has already testified, Mr. Goulding, giving his reasons, covering practically, I suppose, the same facts that he was allowed to state as independent facts.

Mr. GOULDING. I did not understand that the proposition was to put in any more evidence about it, but discuss the effect of the evidence already in.

The CHAIRMAN. Without passing upon the evidence now, we would like to have you go forward and cross-examine the witness relative to this subject as well as the other matters, because he has already put it in in his reasons, and therefore you can cross-examine him just as well whether we admit this or not. It is a close question. I have had some thought about this in other cases, but it has never been brought as sharply and closely to my observation as it has been by the discussion this morning.

Mr. GOULDING. I suppose that that means that the evidence is in, and what use it shall be put to you reserve for later decision?

The CHAIRMAN. Yes.

Mr. GOULDING. And we can go on on the theory that you may use it for all purposes or limit it?

The CHAIRMAN. Yes, or limit it, as you desire.

Mr. BROOKS. It will make considerable difference, perhaps, with the length of cross-examination as to whether it is limited or not.

The CHAIRMAN. I think Mr. Goulding understands that he can cross-examine upon the theory that the testimony is in.

Mr. GOULDING. Mr. Brooks will do the cross-examining, but that is all right.

The CHAIRMAN. I beg your pardon. You can cross-examine upon the theory, Mr. Brooks—

Mr. BROOKS. I was making the suggestion that of course if your Honors should exclude it for the last purpose that it was offered for, my cross-examination with reference to Mr. Davis' ideal structure would be very brief; otherwise, it would be rather lengthy.

The CHAIRMAN. I think you had better go ahead upon the theory—

Mr. BROOKS. I would just as soon do that.

Mr. MATTHEWS. There will be no objection, I suppose, to having the stenographer submit to Mr. Goulding and me the drafts of our remarks?

The CHAIRMAN. Oh, no.

Mr. MATTHEWS. Then the Court will read the discussion as it appears in print.

The CHAIRMAN. Yes, we want the evidence, too. We want Mr. Davis' testimony to look over.

Mr. MATTHEWS. Pardon me one moment. Am I right, Mr. Brooks, in thinking that this line of evidence was admitted in the Lyman Mills case?

Mr. BROOKS. No, sir, you are not right; the question was reserved.

Mr. MATTHEWS. The evidence went in and the question was reserved?

Mr. BROOKS. Yes, the question whether or not it should be finally admitted was reserved by the Commissioner.

Mr. MATTHEWS. It was admitted in that manner?

Mr. BROOKS. It was admitted de bene—under that cloak which covers such a multitude of sins.

The following brief was subsequently submitted by Mr. Matthews and is printed here for convenience.

## COMMONWEALTH OF MASSACHUSETTS.

SUPREME JUDICIAL COURT.

HAMPDEN, ss

## HOLYOKE WATER POWER COMPANY

v.

## CITY OF HOLYOKE.

BRIEF UPON THE QUESTION OF THE ADMISSIBILITY OF EVIDENCE OF THE COST OF A NEW PLANT NOT BUILT IN EXACT DUPLICATION OF THE EXISTING PLANT.

The respondent contends that evidence of what it would cost in January, 1898, to build a new plant of substantially the same capacity as the Company's plant and capable of being operated at least as economically as the Company's plant and of furnishing at least as efficient service, is competent, although such plant would not be built in identical duplication of the existing plant, but would be such a plant as would be built at the time according to good commercial practice.

Also, that evidence is admissible of the cost of such a plant as is described above, but having a manufacturing capacity equal to the capacity to which the Company's plant must be brought, either at once or in the immediate future, in order to enable its owner satisfactorily to carry on the business of making and distributing gas or electricity in Holyoke.

Also that the cost of other sites in Holyoke equally well adapted for a gas works or an electric light station is admissible.

## I.

Evidence of the cost of other sites is admissible to show the value of the Company's site for the purpose of a gas works.

Lowell v. County Commissioners 146 Mass. 403, 407.

In this case the Commissioners upon the complaint of a manufacturing corporation for an abatement of taxes called a witness who qualified as an agent of the mills and as having been engaged in cotton manufacturing for thirty years, but who had not examined the Company's land, and he was permitted to testify against objection that so much a foot would be the outside price of land in Massachusetts suitable for the purpose of a cotton mill. The action of the Commissioners in allowing this evidence was sustained by the Court.

Held also in this case that the price of water power in other places was admissible.

### III.

Evidence of the cost to construct and install buildings and machinery for a plant such as is described above is admissible for the purpose:

(a) Of showing that a plant of equal capacity, efficiency, economy of operation and value could be built for a smaller sum than the cost to build a plant identical in all its features with the Company's plant; or

(b) Of showing that a plant of the capacity, efficiency and economy of operation reasonably required by any one prosecuting the business of gas or electricity in the City of Holyoke could be built for a smaller sum than the cost to build a plant identical in all its features with the Company's plant plus the cost of making the capacity, efficiency and economy of operation of the latter plant equal to that of such a plant as is reasonably necessary for the purpose of supplying gas or electricity in Holyoke; or

(c) Of showing in what particulars and to what extent the value of the Company's plant is less than the cost to build a new plant identical with it, by reason of the changes that ought to be made in the Company's plant in order to make it a suitable and satisfactory plant for the prosecution of the business in question.

1. The measure of value in this case is the "fair market value" of the property; and this means its selling value, that is to say, the price that one could reasonably expect to obtain for

it upon a sale taking a reasonable time and using reasonable efforts to procure a sale.

Lawrence v. Boston 119 Mass. 126.

Beale v. Boston 166 Mass. 53.

Market value in the strict sense of the expression is not to be confounded with the value recoverable in cases of eminent domain where the property can be shown to have a value greater than what it could reasonably be expected to sell for.

Beale v. Boston 166 Mass. 53, 55 and cases cited.

So in cases of trover, market value is not necessarily the limit of recovery.

Stickney v. Allen 10 Gray 352.

So in insurance cases.

Wall v. Platt 169 Mass. 398, 405 and cases cited.

So in the construction of statutes creating liability in a civil action for the damages caused by certain acts.

Wall v. Platt 169 Mass. 398.

As to the legal difference between market value and reproductive cost see the opinion of Van Fleet J. in the

San Diego Water Case 118 Cal. 556,

where on p. 567 he says that in determining value for the purpose of ascertaining the reasonableness of rates, "three methods are possible: (1) either by ascertaining what the property could be sold for (its market value); or (2) by ascertaining what it would cost to replace it; or (3) by ascertaining the revenue it is capable of producing."

2. It must be assumed that the Legislature used the expression "fair market value" in the sense in which those words have been construed by the Courts wherever the question has been squarely presented as to whether any more than market value could be recovered, and not in the broader sense in which the phrase is frequently used. In cases of eminent domain, for instance, it is common to find the measure of recovery stated to be "market value"; but this statement will be found upon examination to have been used in cases where the petitioner upon receipt of market value would be enabled to procure for himself similar property of like value, and not in cases where market value would not equal the cost of replacement.

Where the Legislature uses a phrase having a well recognized and definite meaning in the law it is to be presumed that it intends to have the words construed in that sense.

3. The expression "fair market value" found in the Municipal Lighting Act, means therefore that the Company can recover no more than the sum which the Commissioners think could be realized from the property in a sale to a person having occasion to use the property (that is, having a franchise but needing the plant) and willing to pay its fair commercial value; and this sum is evidently to be measured, tested or arrived at by a consideration of what it would cost to build and equip a proper plant of the same capacity, etc., as the Company's plant, or a plant with such enlarged capacity as the present plant must be brought up to.
4. The market or selling value of property is evidently the price that one would pay for it as a whole, that is either as a unit to be used for the business for which it was built, or for purposes of dismantlement. Unless therefore the property can be shown to have a dismantlement value greater than its value as a unit, the latter is the fair market or selling value of the property and the measure of recovery. And the value of the property as a manufacturing unit or machine is clearly to be gauged by the cost of procuring a new plant of equal capacity, efficiency, etc.
5. Thus valuing the property as a whole is the proper mode of valuation notwithstanding that the result may be less than the aggregate value of the several component parts of the plant or the aggregate cost to reproduce them.

This point has been expressly decided in the cases of  
Tremont & Suffolk Mills v. Lowell 163 Mass. 282  
Troy Cotton Co. v. Fall River 167 Mass. 517

where it was held that under the statute providing for the taxation of property at its "fair cash valuation," the assessors cannot take the value of the land, buildings and machinery separately, unconnected with each other, and add them altogether, but must take the value of the whole as a unit, although that may be considerably less than the aggregate value or cost of reproduction of the several parts.
6. The property is also to be valued according to the act "for

the purposes of its use," which must mean for the purpose of manufacturing and distributing gas or electricity in the City of Holyoke. The argument for the admissibility of the evidence in question is even stronger on this ground than that based upon the expression "fair market value"; for the value of a gas works for the gas business must certainly be measured, or at least tested, by the cost to produce a proper plant of the required capacity. A manufacturing plant which is not a comparatively new plant built at one time, but the aggregate accumulation of many years of construction, changes and additions, cannot be worth as much as a new plant specially built for the purpose.

7. This conclusion is not shaken by the injunction that no portion of the property is to be valued at less than its market value for any other purpose; because this clause provides for something in the nature of a confession and avoidance and cannot prevent the City from showing the fair market value of the plant for the purposes of its use, leaving to the Company the task of showing, if it can, that some distinct and severable portion of the plant has a greater value for some other purpose. No evidence of this sort has been offered by the Company.
8. The evidence sought to be introduced is not essentially different in character from the evidence offered by the Company as to the reproductive cost of the Company's plant. Reproductive cost itself is only admissible in the absence of evidence of actual sales; but in a case like this where in the nature of things actual sales of this or similar property cannot be shown and the Commissioners are remitted to the next best evidence obtainable, the cost of reproduction or duplication is doubtless a fact to be taken into account together with other competent evidence.

The cost of duplication is, however, nothing more nor less than the estimated cost to construct and install a new plant built upon the site and lines and of the same dimensions and character as the Company's plant. It is a new plant just as much as the plant the cost of which the city seeks to introduce. The only difference between the two is that one of them resembles more



closely in its dimensions and character the Company's plant than does the other; but this difference cannot operate to exclude the evidence of the cost of a different plant if such plant would in fact be more valuable and no more costly, or equally valuable and less costly, than the existing plant.

The City contends that evidence of either character, that is evidence of the cost of a new plant built either on the lines of the present plant or upon different but better lines as above, is competent in the absence of the possibility of procuring evidence of actual sales.

9. Such evidence has been freely resorted to by the witnesses for the Company, and with the exception of the testimony of Randolph, constitutes the only evidence introduced by the Company of the value of its property as distinguished from the value of its property and business.

Mr. Randolph estimates, as does Mr. Davis for the City, the value of the several parts of the plant in site as they exist at the present time, taking into account depreciation and other proper factors (I. 370-1, 374, 394-5, 409-10, 414); but all the other witnesses for the Company admit that their so-called "structural valuation" of the Company's property (whether gas or electric) is nothing more nor less than the cost to build a new works in January, 1898, identical with the existing plant less depreciation on account of use and age.

- Gas. Prichard II. 2-3, 59-68.  
Nettleton III. 41, 44-6.  
Sherman III. 92.  
Fowler III 169-70, 186, 193.  
Allen V. 82.
- Electric. Prichard II. 94-102, 97-145.  
H. A. Foster III. 272, 312, 342-3, 347.  
Robb III. 154-5.  
Whitham III. 242-3.  
Newcomb IV. 287.  
Allen V. 82.  
Anderson V. 239-243.  
Green VI. 23.
- Buildings. Rivers VI. 148.  
Landers VI. 255-267.

10. Equally similar is the process commonly resorted to in water power cases of estimating the value of water power by comparing with it the cost to produce an equivalent amount of power by steam. This is a well recognized and undisputed method of estimating or figuring the value of water power; and it necessarily involves the construction in imagination or on paper of a non-existing steam plant with land, buildings, machinery, etc., for the purpose of calculating the so-called fixed charges or allowances for interest on the investment, taxes, insurance, etc., which must be incorporated in the cost of steam power in order to get at by comparison the value of the water power in question.
11. Such steam plants have been constructed in imagination or figured out with more or less detail by the witnesses for the Company in this case; and such evidence has not only been brought out by cross examination but has gone in as a substantive part of the Company's case.

N. B. Reference is not intended here to the comparisons attempted by several of the witnesses between the cost of operating the Company's electric light station by water power and the cost of operating it by means of its own steam plant. What is referred to is the evidence by the Company's witnesses tending to show the value of the Company's water power by comparing it with the cost to produce an equivalent amount of power by means of a steam plant different from that owned by the Company and constructed in the imagination of the witnesses or on paper with more or less detail.

Thus H. A. Foster testified generally III. 321, 322, in his direct examination, that the Company's water power at a certain rent is cheaper than steam power.

Robb in his redirect-examination, Vol. IV. 170, states that the cost of producing power by steam would be a certain sum per annum per H. P. and upon that basis attempts to figure out what the value of the Company's water power is. His estimates of the cost per H. P. to develop power by steam are, of course, based upon the construction of a proper plant (bearing no relation to that of the Company's) and are sufficiently explained in IV. 193-5.

Newcomb endeavors to get at the value of the Company's water power in the same way upon the basis of a certain cost for steam power developed by engines run condensing (IV. 293, 310, 342-3, 348-9). He also figures out what the cost would be if the plant were operated non-condensing (IV. 344). The manner of these computations showing the assumed cost for land, buildings, machinery, etc., in order to get at the fixed charges for interest, depreciation, taxes, etc., of these hypothetical steam plants is explained by the witness in IV. 350-1, 354. The details of these calculations were brought out on cross-examination; but the original statements leading up to them were made by Mr. Newcomb in his direct examination IV. 293.

Allen goes into the subject of the comparative cost of power created by water and by steam in V. 141-2; and in V. 191-2 gives a tabulated estimate of the yearly cost of operating a compound condensing steam plant in Holyoke. This calculation includes, of course, an estimate of the cost of land, buildings and machinery. The whole matter was, however, brought out in cross examination in the case of this witness.

Tower produced upon his direct examination (VI. 76-7) an "estimate of the cost per annum of operating a compound engine non-condensing plant at Holyoke, Mass., in "February, 1898, equivalent in capacity to 16 M. P. of "water," etc. These estimates are based upon the imaginary construction of a plant differing from the Company's steam plant in having compound engines as against simple engines, and in having engines of a capacity of 16 M. P. which is about double the capacity of the Company's engines. On p. 80 the witness produced, also on direct examination, an "estimate of yearly cost of operating a compound condensing plant of 16 M. P. capacity." This plant differed from the Company's plant not only in having compound engines and engines of greater capacity, but in being operated condensing instead of non-condensing. These estimates are, of course, based upon the construction of a hypothetical non-existing plant upon a different site from that owned by the Company; and the fixed charges are calculated upon the

estimated cost of this "ideal" plant. See VI. 111-119, 121-4, 128.

Some of the evidence relating to the cost of hypothetical steam plants was brought out on cross-examination, some introduced in the first instance by the Company itself; but this matter is immaterial, the point being that such evidence—well settled to be admissible in a case involving the valuation of water power—is in essence identical with the evidence now offered by the Company, as involving the construction on paper or in imagination of a plant differing more or less in respect to site, arrangement, character and machinery from the existing plant.

12. The price obtained for water power in other places under similar conditions is admissible in evidence.

Lowell v. County Commissioners 146 Mass. 403, 413.

This is a well recognized line of evidence in water cases and rests upon the principle that in default of better evidence you can show the value of a thing by showing what similar things cost in other places under similar conditions. This process again is not essentially different from the process involved in the evidence offered by the City as to the cost of a plant generally similar though not identical with the plant in question.

13. The rule of evidence last above stated has been taken advantage of by the Company's witnesses, Mr. Robb having gone very fully in cross-examination into the cost of water power in Hartford, and having testified, as was necessary for this purpose, to the cost of the plant itself. See Vol. IV. 131-3, 135-7, 141, 169, 175, 185-7, 206-7, 209-10.

Robb's testimony relating to the cost of power and plant at Hartford was brought out in cross-examination; but Anderson testified in direct examination as to the comparative value of water power at Springfield and at Holyoke and went into details, supplemented on cross-examination by further details and estimates of cost. See V. 228, 233, 262-312, 320, 355-7, 360-4, 368-373, 378-391.

14. The City submits that the evidence in question is admissible as a practical common sense test of the fair market value of a manufacturing plant for the purposes of its use;

not as a conclusive or final test, but as a fact to be taken into account by the Commissioners in connection with other competent evidence.

The City submits that no authority is necessary in support of this contention, as it necessarily follows from the general rules of the law of evidence.

The City submits that no authority has been or can be cited against its position.

The City submits that if authority is needed it is to be found in

Tremont & Suffolk Mills v. Lowell 163 Mass. 282  
and in

Lowell v. County Commissioners 146 Mass. 403;  
the reasoning in which necessarily leads to the conclusion that the evidence is admissible.

The City also submits that the admissibility of the evidence in question has been judicially determined in the cases of

Capital City Gas Light Co. v. Des Moines 72 Fed. 829  
and

- Butler Hard Rubber Co. v. Newark 61 N. J. L. 32.

The former was a case involving the 14th amendment to the U. S. Constitution and the legality under it of a certain action taken by the Municipal authorities to fix the price of gas. The case necessarily involved the value of the Company's plant, and evidence of this value was allowed, not only in the form of evidence as to the cost to reproduce the existing plant, but also in the form of evidence as to the cost to build a new plant "equally efficient and capable in supplying gas to the defendant and its citizens."

The New Jersey case above cited was a petition for damages for the diversion of water power taken by eminent domain, and the Court in an elaborate opinion not only sustains the common practice of measuring the value of such water power by the cost to produce an equivalent amount of power by steam; but permitted the witnesses to figure out the value of the water power in question by the construction of a different and better steam plant than the auxiliary plant which the plaintiff actually possessed and used for the purpose.

The question was put thus by the Trial Justice: "Which method, gentlemen, would a judicious owner adopt to meet the diminution in his power by reason of the diversion of the quantity of water taken by the City... Would he make a connection with the engine that is there, or would he install a new plant for the purpose of driving the machinery?... When you determine that then the cost... of furnishing that supply will be used not for the purpose of figuring out a verdict but as a means of deciding on just compensation."

FREDERICK J. DAVIS, *resumed*.

Mr. GREEN. I have just about half a dozen questions that have suggested themselves that I would like to ask Mr. Davis before the cross-examination.

By Mr. GREEN.

Q. Mr. Davis, how would the cost of operating the plant that you have designed compare with the cost of operating the existing plant of the Holyoke Water Power Company? A. It ought not to make any difference, making the same kind of gas.

Mr. BROOKS. That is, the cost to operate is the same if they made the same amount?

The WITNESS. About the same; there ought not to be any difference.

Q. Have you ever designed yourself gas plants as a whole?

A. Oh, yes.

Q. You spoke in your direct testimony of the lot on which you had placed your new plant as being some 600 feet lower?

A. I made a mistake. I understood the parties that told me 600, or they spoke of it in that way, but I have learned it is about six—the difference between six and six hundred. It was merely in the course of conversation.

Q. With that correction in the levels, what do you now say of the suitability of that lot? A. Oh, that is a suitable lot; I should say better than the present lot that the works are on. One reason would be it is 6 feet lower in grade.

Q. Is your new plant, Mr. Davis, such a plant as you, as a practical man, would have built in Holyoke in January, 1898?

A. It is.

Mr. BROOKS. We object.

The CHAIRMAN. This has been saved to you before; we admit it.

Mr. BROOKS. It is something more, of course, than the mere foundation for his data from which he derived his opinions, and I understood your Honor was holding that question.

The CHAIRMAN. Well, you may put the question if you want to.

(The question was read by the stenographer.)

The CHAIRMAN. We admit that.

Mr. BROOKS. We will save our exception on it.

The CHAIRMAN. What do you say, Mr. Davis?

The WITNESS. It is; that is my judgment.

*Cross-examination by Mr. BROOKS.*

Q. Mr. Davis, you say you are a member of the firm of Davis & Farnham, and what is their business? A. The general firm?

Q. What is the real business? A. Foundry business and machines and general work for gas and water companies is their principal work.

Q. What do you mean by work for gas and water companies? A. Making different apparatus for different parts of gas and water works.

Q. That is, your concern is a constructor of machinery? A. Yes, sir, in gas and water.

Q. And also an installer of machinery? A. An installer — What?

Q. You say you have a foundry and machine shop; you say you are constructors of machinery? A. Yes, sir.

Q. Are you also installers of machinery? A. Yes.

Q. You have given us a long catalogue, a long list of names of gas plants with which you have had some connections? A. Yes.

Q. Are you a gas plant engineer? A. I pretend to be, sir.

Q. I am not saying you are not. A. A constructing engineer.

Q. Are you the drawer of plans for gas buildings? A. Yes, sir.

Q. How long— A. I lay those buildings out; I lay such buildings out for our concern that we want.

Q. By laying them out, you mean laying them out on paper? A. Yes, and also build, constructing the buildings.

Q. Did you give a list of the plants that you had constructed entire yesterday? A. Yes, sir.

Q. And by that I understand you to mean not only the buildings but the mechanisms that the buildings contain? A. Yes, sir.



Q. You said yesterday, as I recall it, you had been called upon to place valuations upon gas plants? A. I have.

Q. On the entire plants or on the parts? A. Oh, in the entire.

Q. What entire plants have you valued and given testimony with reference to the value of? A. The Malden & Melrose I made an entire estimate, but it wasn't carried into court.

Q. What plants have you valued, was my question, and testified to the value? A. I don't think that I have any, really, that I have gone into court and testified.

Q. Is this the first instance of your testifying in court to the value of gas works? A. No, it is not. I will take that back. I gave testimony in one in Yarmouth, Nova Scotia—an entire plant.

Q. How long ago? A. It was some three years ago.

Q. That was a very small plant? A. Well, not very large.

Q. How large? A. Oh, I guess they make twelve to fifteen million a year—small comparatively.

Q. And that is the sole instance prior to this case where you have been called upon to give testimony as to the valuation of plants in court? A. I think that is about the first one, yes. I have made many estimates, you know, of cost.

Q. I so understood you yesterday. When were you called upon to make any estimates with reference to the gas plant that is in question here? A. I think it was along in the last part of 1898.

Q. Was it 1898 or 1899? A. It might have been the first of 1899, possibly.

Q. By whom? A. I was first employed by Mr. —

Q. Kirkpatrick? A. Matthews.

Q. By Mr. Matthews. And when did you go to Holyoke? A. I couldn't give you the date.

Q. Can you approximate it? A. I could give it to you later.

Q. What do you mean by later? A. Well, tomorrow perhaps. I am not quite sure whether it was the last of 1898 or along into the first of 1899.

Q. Well, it was the last of 1898 or the first of 1899 that you were employed. What I am endeavoring to get at is when you went there to make any examination. A. I went there soon after that; I don't care to give the date of that.

Q. Near a month? A. Near a month.

Q. How long were you there? A. I was there two days at one time.

Q. That is the first time? A. I think I was there only one day the first time; I can tell you later, but I am not sure.

Q. What? A. I can tell you later by looking up my memorandum.

Q. Will you tell me later when you went there? A. I will try, yes, sir.

Q. And how long you stayed, if you please? A. I will try to, yes, sir.

Q. Who went with you? A. I went from Boston alone.

Q. Who went with you to the plant, or who did you meet there? A. Mr. Kirkpatrick went down with me to the works and I met Mr. Snow and Mr. Fairbanks; he was there at that time.

Q. Who was Mr. Fairbanks? A. He was the assistant superintendent.

Q. And whom else did you meet there upon either of these occasions that you speak of? A. Well, I don't know of any one in particular; there are a good many men round there.

Q. I mean anybody in your profession. A. Not at that time, no, sir; not the first.

Q. I said at any of those times. A. Yes, I have been there with other men.

Q. With what other men? A. I was there with Mr. Emery for one.

Q. Who else? A. I think there was some other man with us at that time, but I am not sure.

Q. Whom else do you recall? A. Well, I don't recall any person at this moment.

Q. Do you know a man by the name of C. J. R. Humphreys of Lawrence? A. Oh, yes.

Q. Was he also employed on behalf of the city as an expert? A. I am not sure, sir.

Q. Was he there with you at any time? A. No, sir, he was not.

Q. Do you know anybody by the name of Leahy—anybody in the gas profession of that name—outside of the legal profes-

sion? A. No, sir, not of that name; I don't know any such name.

Q. Did you know a Mr. Coffin? A. Well, later, yes, a few days later, I went with him.

Q. He is of Gloucester? A. Gloucester, yes.

Q. Do you know Mr. Corbett, Charles H. Corbett? A. I know him very well, yes.

Q. Was he employed by the city as an expert? A. Not that I know of.

Q. Was he there at any time when you were there? A. Not any time when I was there, no, sir.

Q. Or did you see him in connection with this case? A. No, sir.

Q. And do you know William Henry White? A. I know him very well, yes.

Q. A gas engineer? A. He is.

Q. Do you know whether or not he was employed by the city? A. I don't think he was; I don't know.

Q. Did you see him there at the plant? A. No, sir.

Q. Do you know Frederick Benson? A. Very well, yes.

Q. Did you know him in connection with this case? A. No, sir.

Q. Or George Ramsdell? A. No, I am not acquainted with Ramsdell.

Q. Have you seen him in connection with this case, or do you know of his connection with the case? A. I don't know that I have, I don't think I have.

Q. Do you know a Frank Ridlon? A. I do not.

Q. Do you recall anybody else that you saw there at this plant except those that I have asked you about? A. I don't think of anybody else in particular.

Q. Is it a fact that you at one time drew away from this case and ceased your connection with it, and afterwards re-entered on the same? A. No, sir.

Q. Nothing of that sort is true? A. That I withdrew from this case after entering it?

Q. That you withdrew from the case and afterward re-entered it? A. No, sir.

Q. When was the last time you were in Holyoke? A. I think about a week ago last Thursday.

Q. To make an examination of the plant? A. I went around with Mr. Coffin, for him to look at the works.

Q. And how many times in all have you been there and made an examination of this plant? I understood you to say three times yesterday. A. Well, either three or four times, I couldn't say which.

Q. And you cannot now tell me how long a time those three or four times took? A. As I told you a few moments ago—

Q. You will look that up? A. I told you a few minutes ago I was there two days at one time and one day after that.

Q. Three days we can say, can we? A. Well, I don't want you to say; I will give you the dates if you like.

Q. Very well. What measurements did you make? A. In the first place I measured the buildings.

Q. What did you find the buildings to be in area? What was the area? A. Which building do you have reference to?

Q. Any of them, all of them. Is that contained in your schedule? A. It is.

Q. What page? A. The retort house; I don't know now.

Q. Did you make personal measurements? A. I did, sir.

Q. And without the aid of anybody? Was Mr. Kirkpatrick along with you? A. No, he was there at one day, but I think the first time I was there I had a man to hold the tape measure to get the size of the buildings.

Q. When I take up, perhaps, the subjects you have in the schedule, I will ask you further with reference to your measurements. Did you allow for the windows and doors in the various buildings? A. I did in my estimate of getting at the number of brick.

Q. Where does that appear in your schedule? Where does that allowance appear in your schedule? A. I don't know that I have it appear in any, so many squares out; I measured the building and then took it—I haven't that in any detail.

Q. I notice that you speak of a square of excavation. A. Yes.

Q. What do you mean by that? A. I mean by a square 6 foot high, six foot square; 6x6x6; that is considered a square.

Q. That is what you call a square? A. Yes.

Q. How much land do you find to be comprehended by the

Holyoke Gas Works? A. I haven't it only by hearsay, I haven't measured myself.

Q. How much land is comprehended in the site of your ideal gas plant? A. I have that as stated to me, I didn't measure it at all. Would you like it?

Q. Well, if you are willing to let me have it. A. I am willing to let you have everything I have got here, sir, if you call for it. If you will put that question once more about the land.

(The question was read by the stenographer.)

A. 87,880 feet, as was given to me.

Q. And do you understand that the present gas site covers 85,000—has an area of 85,000 square feet? A. 85,054, as was given to me. I didn't measure either lot.

Q. A difference of something between two thousand and three thousand square feet in the two sites? A. Well, I gave it to you.

Q. No; that is true, is it? I want to get it on to the record. That is a fact, isn't it? A. Well, I will have to reckon that.

Q. Never mind; if you have got to reckon it let it go. Mr. Davis, how much land is comprehended by the Bridge street holder? I didn't know but you could approximate it. A. No. I have got it here somewhere.

Q. Well, let it go. I will pass it. A. I can give it to you if you will give me a few minutes.

Q. Perhaps I had better let it go. You say, Mr. Davis, that you saw certain plans at the time of your examination or after your examination? A. I don't understand your meaning quite, sir.

Q. You said yesterday or the day before that you saw certain plans either at the time of your examination or after your examination, and before you came to any conclusion in the way of results? A. No, I didn't say that.

Q. Well, isn't that the fact? A. No, sir.

Q. What plans did you see? A. I saw the plans after I had made my estimate and my measurements; then I saw plans.

Q. What plans were they? A. They were plans of the present gas works, and then I saw—

Q. Do you say they are the same plans that have been intro-

duced in evidence here? A. Well, I supposed the ones that were introduced in evidence on the other side—they have not been introduced here.

Q. Well, they were plans that were made by the city? A. I couldn't say whether made by the city or by the gas company.

Q. Who showed them to you—Mr. Kirkpatrick? A. I think I saw them through him; that is, he showed them to me.

Q. How late in 1898 or early in 1899 did you see those plans? A. I couldn't tell you, sir.

Q. Did you see them within the first two or three months of 1899? A. I couldn't tell you, sir. It was after I had made up my figures of my estimate for the value of the old works.

Q. What became of those plans you don't know? A. No, I am sure I don't know. I presume they were sent back to the parties that showed them to me.

Q. Were they sent to you? A. I think I had them at our works.

Q. Did you return them to Mr. Kirkpatrick? A. I did; I didn't keep them.

Q. As I understand you, you determined the value of this present plant of the Holyoke Water Power Company by a comparison with a plant which you, as a constructing engineer, would build and locate in the place that you speak of? A. No, sir.

Q. Isn't that your method of determining the value? A. No, sir.

Q. Did you say so day before yesterday? A. No, sir.

Q. Let me read— A. I made that as a comparison.

Q. That is what I said. Taking the value of the present plant you compared it with the plant that you would plan or had had planned, located in the place that you have described? A. Well, I didn't say that I made my figures from that—making the new plan.

Q. Do you say now that you did not obtain your valuation by a comparison with a plan of a structure that you would construct? A. I didn't change my valuation that I made in the first place, but I did compare it and made a difference and gave you my reasons why.

Q. Mr. Davis, when did you make the plans that are here in question? A. The new plans?

Q. The plans of the ideal structure. A. Well, it was in 1899 sometime.

Q. What time? A. I couldn't tell you, sir.

Q. About what time? A. I should say it was along in the spring or fore part of the summer.

Q. When did you make up this schedule of valuation that has been introduced in evidence through you? A. Which one?

Q. There is only one. A. I couldn't tell you the exact date.

Q. About when? A. I couldn't—I told you a little while ago that I would look and see what time I went to Holyoke to make the examination.

Q. Subject to any change that you may desire to make as the result of an investigation, will you tell me now about what time this schedule was prepared that is introduced in evidence here? A. I couldn't tell you.

Q. Well; give me an approximation.

The CHAIRMAN. Give us some idea.

A. Well, it was within two or three months after I first went, before I got them finished, after I first went, but the date I can't tell you. I can't give it to you. It took me quite a good long time to make up all these figures that I have.

Q. Certainly; I assume that it took you some months? A. Well, yes, more or less.

Q. And how long were you drawing your plan of this ideal structure? A. Well, I might have been to work on them off and on a month; that is, I say off and on; if I had a few hours today and a few hours tomorrow, and some days worked all day.

Q. Did that cover any considerable length of time? A. Quite a little; a month or two, I should judge.

Q. That was in the spring of 1899, you think, that you had completed your schedule of valuation and your plan of your new structure? A. Did I say that?

Q. I am asking you the question. Didn't you tell me that you made your plan in the spring of 1899? A. Spring and summer.

Q. Is it fair to assume that you made your plan and your schedule sometime in the spring or summer of 1899? A. Well, it is fair to suppose that; but, as I told you a little while ago, I

will give you the dates that I went to Holyoke first, and then I can give you an idea of how long it took me to get that.

Q. Which were completed first? A. What do you mean?

Q. The schedule of valuation that has been introduced here in evidence, or the plan. Which was completed first, the schedule of valuation that you have introduced in the case or the plan of the would-be structure? A. Now let me ask you the meaning of that question, will you, please?

Q. Well, I mean just what I say. Which did you complete first, the plan of the new structure or the schedule that has been introduced here in evidence? A. I presented them both at the same time.

Q. Which did you complete first? A. I couldn't tell you, sir.

Q. Why not? A. Because I don't remember. I might have got the figures nearly completed before I got the plans completed.

Q. I am not asking you what you might have done. Did you make your plan first or did you make your schedule first? A. They were made along at the same time.

Q. About the same time? A. Yes.

Q. Which was first you cannot now say? A. No, sir.

Q. Did you testify yesterday or the day before that in getting at your valuation you took into consideration the plans and specifications of a new plant? A. I didn't change my original—

Q. Excuse me, did you say that; that in getting at your valuation of \$213,000 you took into consideration the plans and specifications of a new plant? A. No, sir.

Q. You didn't say that? A. I don't think I did.

Q. Didn't you do it? A. No, sir.

Q. In getting at your valuation of \$213,000, didn't you take into consideration your plans and your specifications for your new plant? A. No, sir; I didn't say that either.

Q. What? A. I don't think I said that.

Q. Well, you say you didn't say it, and you say it isn't true if you did say it? A. It isn't what?

Q. You say it isn't a fact if you did say it? A. I don't think I said that. I didn't intend to, anyway. I will tell you what I did—



Q. If you made your plans first, before you formulated your schedule of valuation— A. I didn't say that, sir. I made them together.

Q. Will you be kind enough to wait. If you made your plans first, before you formulated your schedule of valuation, you took into consideration in arriving at your valuation the plans that you had drawn, didn't you? A. I don't quite understand your question now.

(The question was read by the stenographer.)

A. I took into consideration the new plant, not in any connection with the old.

Q. I will repeat that question. I would like to get an answer to it, and if there is anything to explain about it I want you to explain it.

(The preceding question was read by the stenographer.)

A. Yes, I did; but not in—I beg pardon.

Q. Where in your schedule appears the amount of foundations in the present plant? A. In the present or new plant, you have reference to?

Q. I said present. A. Well, that is the old. You will find that on page 1 of the retort house building.

Q. Where is that? A. The retort house building, page 1 in my book.

Q. How did you arrive at the determination of 140 perch of stone for the foundation of the retort house building? A. I estimated the foundation; of course I didn't go down—I didn't dig down there.

Q. Well, you took that from somebody else, didn't you? A. No, sir, I didn't. I took what it ought to be.

Q. That is, you judged as to what the foundation ought to be? A. Yes.

Q. And how many cubic feet there were actually in the foundation, you don't know? A. I couldn't swear to how many there is there, positively.

Q. How many cubic feet did you think there ought to be? A. Well, 140 perch.

Q. That is 140 perch of stone? A. That is perch of stone.

Q. How many cubic feet of foundation? A. A perch of stone is 24 feet by 2, what we call in laying stone.

Q. Tell me how many feet of foundation. A. In a perch?

Q. No, in this entire foundation of the retort house. I will change my question. How many cubic feet do you reckon to a perch? A. 48, sir.

Q. Where did you get your figures of \$2 per perch? A. I estimated that as being a fair price.

Q. Do you know what the price of stone is, such as was used in the foundations, there in Holyoke? A. Ordinarily I do; not exactly there.

Q. I am talking now about Holyoke. A. Why, I don't know exactly what it might cost there, but this is a general cost.

Q. How was your stone laid—in mortar? A. Of course it should be.

Q. Did you know that in 1898 the ruling price was \$4.50 to \$5 per perch? A. No, sir, I did not.

Q. Per perch of 24 cubic feet? A. No, sir.

Q. Laid? A.. In stone? I never heard of such a thing, never heard such a high price.

Q. And, of course, if it were a fact it would increase your valuation considerably, wouldn't it? A. I should have to.

Q. Yes, you would be rather compelled to. Did you look over at any time the valuations of the foundation that have already been testified to by the various experts? A. No, sir, I have not, not to any extent.

Q. Well, have you at all? A. Oh, I have seen some of them, I think; I have seen some of their evidence.

Q. I am asking you now with reference to one particular subject. A. Well, I don't remember that I have particularly that. I presume I have seen that with others, but I don't know how much there was.

Q. How much did you calculate the stone alone would cost, 48 cubic feet? A. I calculated the stone and laying would be \$2 a perch.

Q. I ask you how much you calculated the stone alone for? A. I didn't calculate the stone alone at all; I calculated it—

Q. Did you calculate the laying alone? A. No, sir.

(Noon recess.)

## AFTERNOON SESSION.

---

FREDERICK J. DAVIS, *resumed.**Cross-examination by Mr. BROOKS, continued.*

Q. Then, Mr. Davis, as I understand you, you make the cost of the stone, for the foundation, laying, something like \$1 per cubic yard? A. How much, sir?

Q. Something like \$1 per cubic yard? A. \$2 a perch, which is—

Q. Well, that is about \$1 per cubic yard, isn't it? A. I take it by perch.

Q. Will you answer my question to me, because I think it is a sensible question? A. That wouldn't be quite a dollar—

Q. Well, I said about a dollar? A. About, yes.

Q. About \$1 per cubic yard? A. Yes.

Q. For the cost of the stone, and laying. Have you erected in recent years any foundations such as are there in the site of the present gas works, with foundations costing, laid, but \$1 per cubic yard? A. I have.

Q. Where? A. Well, in buildings that I have built.

Q. Where? A. Well, I estimated that together.

Q. I don't care what you estimated; I don't ask for the estimate.

Mr. GREEN. Well, if he estimated and then built the buildings—

Mr. BROOKS. I am asking him about the erection of buildings.

The WITNESS. I don't know that I can give you any particular place that I have put in foundations for that.

Q. Have you ever put in foundations— A. Have I ever—

Q. Wait a minute till I get through. Have you ever put in foundations for that price? A. Yes, sir.

Q. Can you specify any place? A. I can find out and give it to you later.

Q. Can you now? A. I cannot now.

Q. Can you specify any time? A. Time that I can give it you?

Q. Oh, no, time when you put it in? A. Oh, within ten years.

Q. You think so? A. Yes.

Q. Do you know anything with reference to the price of labor in the city of Holyoke? A. Only what I have learned by being there and inquiring.

Q. From whom did you learn what the price of labor was in the city of Holyoke? A. Mr. Kirkpatrick gave me that about the cost of labor.

Q. How much does the ordinary mason obtain per day? A. I didn't learn that, sir.

Q. Well, how much, in your judgment, would the ordinary mason obtain per day in the city of Holyoke? A. Oh, I guess—our way they get from \$3 to \$4.

Q. How many perch will a mason lay in a day? A. I couldn't tell you, sir.

Q. About how many? A. I couldn't tell you.

Q. Can you give me any estimate? A. No, sir.

Q. Well, Mr. Davis, you have not yourself operated a gas plant? A. I never have been superintendent.

Q. I asked you if you had ever yourself operated gas plants? A. No, sir, never, not to operate the works.

Q. Is there any difference between operating the works and operating the plant? A. The plant running, you mean? You have reference to running the works?

Q. Certainly; the operation of the works. A. No, I never have.

Q. And you have had no experience in that direction? A. Not in running works.

Q. That is what I mean, in the operation of the works, and of the plant and the mechanism that is contained therein? A. I haven't had any experience as having it to do myself; I know quite a good deal—

Q. Have you ever had any position in gas works? A. Yes.

Q. What? A. As a director.

Q. A director in some gas company? A. Yes, sir.

Q. What company was that? A. Well, I was director in Decatur, Illinois; Cairo, Centralia.

Q. How many years ago? A. That I couldn't tell you.

Q. That gave you no experience in the actual operation of the works? A. Those are works that I have built myself. No, not in the running of the works.

Q. That is what I mean, in the operation of the plant. A. Yes.

Q. Show me in your schedule where you have allowed for engineering; in the schedule as it is in this case. A. The schedule of the new works?

Q. There is no schedule in this case but one, and that is a schedule of the old works. A. I haven't allowed any.

Mr. GREEN. That isn't quite correct, is it? That is where you have been misleading us in regard to schedules.

Mr. BROOKS. Well, it is in one schedule. There is only one schedule in the case.

Mr. MATTHEWS. The old and new are both in.

Q. Show me what you allowed for engineering in either of the works. A. I allowed \$250 for engineering, or making the plans and getting up the specifications and making a proposition for the new work, and nothing for the old work, as engineering.

Q. What did you allow for engineering in the old work? A. Nothing at all.

Q. You allowed \$250 for making the plans and the engineering and superintendence of the new work? A. I didn't say so much as that.

Q. Well, isn't it a fact? A. I said making the plans, getting up the specifications and making the proposition of the cost.

Q. Making the proposition? A. Making my figures of the cost.

Q. That is \$250? A. Yes, sir.

Q. What did you allow for the engineering and superintendence? A. Of the building of the works?

Q. Yes. A. In this case I allowed nothing, sir.

Q. What did you allow for the insurance during construction? A. I allowed nothing, sir.

Q. What did you allow for the interest during construction?

A. Nothing, sir.

Q. What did you allow, if anything, for the liability insurance? A. Nothing, sir. I brought that in—

Q. You have answered the question. A. I know I have, but—

The CHAIRMAN. That is sufficient, Mr. Witness.

The WITNESS. All right.

Q. In your construction of these plans for the ideal, and your services which led up to the construction, and your getting out the details of your so-called proposition, what did you charge the city of Holyoke? A. I charged \$250.

Q. Do you mean to say that all the work that you have done cost the city of Holyoke \$250? A. That is what I charged.

Q. For everything? A. Everything on the new, on the line you are speaking of, the new work.

Q. Well, I mean for your mental operations and your physical operations. A. For all the work I have done there?

Q. Yes. A. I couldn't tell you, sir.

Q. What per cent. would that be? What per cent. have you allowed for everything in the way of engineering, construction, superintendence and interest, for the superintendence of the new work? A. I have brought that all—

Q. That is \$250 in all? A. Yes, for that part of it.

Q. How much have you allowed for contingencies? A. I haven't allowed anything for contingencies. It is all in my proposition for the price of the work, the cost of the work, all put into that.

Q. Where is it put in? Where does it show? A. In the expense of each department.

Q. Where does it show? Show me the department that tells me how much the superintendence comes to; show it to me in your schedule. A. I haven't any direct entry to show you.

Q. Can you show me anywhere in your schedule any allowance for any of these elements to which I have called your attention? A. I have put all those things into my estimate of cost.

Q. Just answer my question. Is there any place in your schedule— A. No, sir.

Q. —that you can point to, which shows any allowance for these various elements to which I have directed your attention?

A. No, sir, only the \$250.

Q. When you plan these works and give your estimate to your employer of how much they will cost, don't you usually allow for superintendence? A. Will you allow me to answer that—

Q. No, answer my question just as it is; if you want to explain, I shall not object. A. If you will allow me to explain, I will answer.

Q. No; answer the question. A. No, sir, I do not.

Q. Do you allow for contingency? A. Not directly.

Q. When you come to make your proposition in writing, is there anything shown, any allowance ordinarily on your part—

A. It is all put into my—

Q. —for superintendence, engineering, interest, and the various other elements to which I have directed your attention? A. It is all put into the proposition, made up all in one proposition, to do the work for so much.

Q. Now you say that is so, and I am not disputing you. Now just run back. How much of that \$2 per perch of stone laid is comprehended in these various elements to which I have directed your attention? A. It is all in the \$2.

Q. Where? How much? A. I have got no per cent. of it.

Q. Give me an estimate. What per cent. of that \$2? A. In building a building I shouldn't consider that any per cent. at all.

Q. Take your 210,000 of brick; how much of that? A. There isn't anything.

Q. How much of that comprehends any of the elements to which I have called your attention? A. It is all reckoned in, \$10 or \$12, whatever it is.

Q. You cannot tell me approximately what per cent.? A. It is all in that \$10.

Q. Well, why did you pick out \$250 for your plans? A. Because I made the plans, the work without any building; had I made a contract for that I shouldn't have charged the \$250 for plans and specifications.

Q. You shouldn't have charged so much as that? A. No.

Q. What is the usual allowance for the plans and the en-

gineering and the superintendence and the interest on the money during construction, and insurance, and these various other elements, and for contingencies? A. I can't tell you what others put in.

Q. I am asking you what is usual. A. I don't know, sir.

Q. You don't know? A. No, sir.

Q. And the knowledge of your profession has never taught you what the usual charge was, in per cent.? A. No, sir; wouldn't reckon it in that way.

Q. I haven't asked you that. In the valuation of your retort house, mentioned in the schedule which is marked Exhibit 86, what did you allow for the puddling?

Mr. GREEN. That is page 2. You refer to the old works?

Mr. BROOKS. Yes. Page 1, according to mine.

The WITNESS. The old works or new works?

Mr. GREEN. It is page 2, the old works.

Q. Just turn to your schedule and show me what you allowed for puddling? A. I don't know that I understand what you mean by puddling.

Q. Why, my friend, you don't mean to tell me that, do you, that you don't know what I mean by puddling? A. Puddling in the foundation, yes, but that all comes in the foundation.

Q. So that comes in this \$2? A. Yes.

Q. And what did you allow for the back filling? A. Well, I haven't allowed anything for the back filling—the excavating of the trench—

Q. If you haven't allowed anything for it, that ends it. A. I have not, not to show—

Q. You have not allowed for it. Now is that contained in any of your items?

Mr. GREEN. The witness had started to say something, he had not finished his answer.

The CHAIRMAN. You can complete the answer to that question.

The WITNESS. There is nothing in the back filling, as a rule.

Q. I don't ask you about any rule. A. All right.

Q. How much bluestone flagging was there there, in this retort house building? A. There was about 1080 feet.



Q. Is that bluestone flagging? A. It is called flagging, yes,

Q. I want to ask you if there wasn't 2300 feet of bluestone flagging there? A. I didn't find it.

Q. Do you swear there wasn't that there in 1898? A. I didn't find it.

Q. Did you measure? A. I measured the flooring.

Q. Did you allow for the flooring 25 cents? A. Yes, sir, 25 cents per foot.

Q. Did you make yourself measurements, and as a result discover that there was 1080 feet of flooring? A. That is what I have got it, sir.

Q. What did you allow for painting? A. I will have to look that up in another—

Q. Look it up here in your schedule. A. I haven't got it on this schedule.

Q. Where does it show in the schedule what you allowed for painting? A. I have got it in something here.

Q. I say, where does it show in this schedule? A. I can't tell you.

Q. Where does it show in this schedule what you allowed for painting? A. This one?

Q. Yes. A. There was no paving in this schedule.

Q. No, I said painting. A. I don't show any at all, sir.

Q. What allowance did you make for painting? A. I put that in with the windows, and what little wood work—there was but very little of it.

Q. You put the painting in with the windows? A. I say I put that in with the cost of the windows.

Q. You put the painting in with the cost of the windows? A. The windows I called \$8 apiece, and that included painting.

Q. How much do you say the painting was? A. I don't know how much it would cost, perhaps 25 cents.

Q. How much would the total be? A. Oh, not more than four or five dollars.

Q. For painting the entire building? A. Painting the windows and one or two doors; that is all the painting there was.

Q. Was there any painting on the inside? A. The iron roof was painted, but that was painted before it was put up, and we allow a charge for that as we put the roof up. That comes in the cost of the roof, the iron roof.

Q. Did you make any estimate of the amount of puddling required there at this retort house, in the building? A. No.

Q. Whether it was 105 cubic yards or not, you don't know?

A. I don't think there could be much, any more than they would throw out of the trench.

Q. I am asking if you know. A. No, I don't know.

Q. And you made no estimate? A. No.

Q. You made no estimate of the back filling? A. No, not directly.

Q. Did you make any estimate of the amount of flagging under the foundation? A. Flagging on the foundation?

Q. Yes, sir. A. That comes in with the—

Q. Did you make any estimate of that? A. Not separate, no, sir.

Q. Have you any notion of the amount of flagging under the foundation? A. I shouldn't suppose there would be any.

Q. Then you assumed there was none? A. I assumed there was no flagging under the foundation.

Q. Then why did you say you made allowance in one of your items for it—for the flagging under the foundation? A. The floor flagging, I thought you meant.

Q. I am talking about the flagging under the foundation. A. That came in—the flagging, if there was any there, would come in with the foundation.

Q. You say you supposed there was none there? A. I didn't say I supposed there was any under the foundation.

Q. You told me you thought there was none under the foundation. A. Well, I might have told you that, yes. I guess I did.

Q. Is it true? A. I don't know whether there is any there or not.

Q. Then if you didn't know whether there was any there or not, you didn't make any estimate of it? A. I did not, because it came in with the foundation.

Q. How could it come in with the foundation if you didn't know whether it was there or not? A. You could measure it, couldn't you?

Q. Did you? A. I allowed so much.

Q. Did you? A. I allowed—I couldn't get down there to measure that.

Q. Was there any flagging under the foundation? A. I don't know whether there was or not, I didn't go down there to see.

Q. If you don't know whether there was or not you made no allowance for it? A. If there was any there it would be measured in with the foundation. I didn't dig down there to see whether there was any flagging.

Q. Did you find out from anybody whether there was or not? A. What sir?

Q. Did you discover in any way whether there was any flagging under the foundation? A. No, sir, I did not.

Q. How many door and window sills and caps were there? A. Four doors.

Q. How many door and window sills and caps were there? A. There must have been four.

Q. Reckon it all up; I want to know the total. Give me the amount. A. There must have been 42, but the cost of those was reckoned in—

Q. Wait a minute. Don't answer more than I ask you to just at present, and if you want an opportunity to explain you can have it. You reckoned 42? A. Yes, there should be 42.

Q. 42 door and window sills and caps. What were they made of, granite and brownstone? A. I think they were made of brownstone, if I remember.

Q. How much did you allow for them? A. I put those in with the windows.

Q. How much should you say— A. I didn't allow anything separate for those two articles. I called the windows and doors so much, what they were worth.

Q. Tell me now—you are a man of large experience—tell me how much would be a fair allowance for these 42 door and window sills and caps? A. I could not tell you, sir.

Q. Can you approximate it? A. No, sir. I can find out for you, though, if you would like.

Q. Find out for me? How? A. Well, I have figures at home that I can tell pretty near what they cost.

Q. Don't you find it out from your inner consciousness? A. Well, I have a good many things I don't carry in my head.

Q. What have you got to do—go and ask somebody? A. No, sir.

Q. Well, you can't tell now? A. I cannot.

Q. And you made no figures for those in your estimate that is in this case? A. In my estimate I figured those in as the cost of windows and doors.

Q. Did you figure anything for those? A. I presume I did at the time.

Q. Do you know whether you did or not? A. I don't remember what I put in for them.

Q. Where are the figures you made? A. I don't know whether I have saved them all or not.

Q. Have you saved any of them? A. Quite likely.

Q. Don't you know? A. I couldn't tell you, sir.

Q. Have you them here? A. No, sir.

Q. Where last did you see them? A. I last saw them at my house, what I have left of them. There were a great many detailed figures that I didn't save at all.

Q. Where was it that you formulated this schedule of the value of the present plant, that has been introduced in this case? A. Well, most of it I formulated at the works in Waltham.

Q. At your works? A. Yes, sir.

Q. Where was the other fraction formulated? A. The other fraction—what do you mean?

Q. You say the most of it. A. Well, the balance was done at my house when I had leisure time.

Q. Did you have the assistance of anybody? A. Oh, I had some assistance, yes, sir.

Q. From what source? A. Well, I had some writing done and figuring.

Q. Did you have any assistance in the estimates you arrived at? A. No, sir, I made those up myself.

Q. What did you allow in your estimate of the cost or value of this retort house of the present plant, for the wall boxes? A. What was the last of that?

Q. For the wall boxes. A. Wall boxes—I don't know what you mean by wall boxes.

Q. Did you see any cast iron wall boxes there? A. There might have been some little cast iron.

Q. Did you see any? A. I don't remember.

Q. Did you make any estimate for them? A. I wouldn't be

certain; I couldn't tell you whether I did or not; if I saw them there, I did.

Q. Can you tell me, my friend, whether you made any estimate for the value of those wall boxes? A. I couldn't tell you exactly what they were. If there were any there I made some estimate and put it in.

Q. Where does it show? A. I don't think there is any there that amounted to much.

Q. Do you know how many pounds of cast iron was contained in the wall boxes? A. I don't remember anything about it; I presume I can find it among some of my figures.

Q. But you don't know whether they were there or not. Very well. Were there any chimney supports that you saw? A. The chimneys are short chimneys, and they are reckoned in with the brick work of the benches. I made no separate cost of the chimneys.

Q. What were the supports composed of? A. The chimneys started on top of the benches.

(The question was read by the stenographer.)

A. The supports of the chimney. I suppose that means the bottom supports, where the chimney starts from. That was composed, I think, of brick,—of tile, fire brick tile.

Q. Did you notice any cast iron supports to the chimneys? A. No, I don't think I did.

Q. Then you didn't estimate those if they were there? A. I estimated the chimneys and the benches all in one lump, so much money.

Q. If there were 2389 pounds of cast iron supports, you didn't estimate those, did you? A. I estimated all the iron work in connection with the benches.

Q. How much, then, did you allow for these cast iron supports of the chimneys? A. I haven't got that in detail here.

Q. Well, have you got it in general there? A. You are talking of benches; you have got away from the building now; you are on the benches?

Q. I am sticking right to the supports of the chimneys of the retort house. A. The chimneys are connected with the benches.

Q. Did you see any cast iron supports there? If you did not, I will pass on. A. I don't remember that I did. I called the chimneys with the benches, whatever they were.

Mr. GREEN. That is, they would be in another place?

The WITNESS. Yes, they would be with the bench work.

Q. Was there any sliding door in this retort house? A. Yes, sir.

Q. Where does that appear in your estimate? A. There are four doors.

Q. The sliding door made more than four, didn't it? A. No, I think not; I think that is all the doors there were in the building.

Q. Weren't there five doors there? A. I have not got but four in my memorandum.

Q. I know you have not. A. I don't say that there wasn't five, but four is all I have.

Q. Four is all you have estimated for? A. Yes, there might have been a small door there that I didn't notice.

Q. Where in your schedule does the water plant building appear? Does it appear on page 3? A. Yes, sir.

Q. What did you allow for excavating for the water plant building? A. 12 squares.

Q. That would be 96—you have allowed 12 squares of excavation? A. 12 squares.

Q. On your theory that would be 96 cubic yards of excavation? 12 squares would be 96 cubic yards of excavation? A. Six times six would be 36, and six times 36—

Q. 216. A. Yes.

Q. 216 cubic feet? A. Feet.

Q. Yes. Did you make the measurement? A. One square at \$2.40 a square—

Q. That would be 8 cubic yards, would it not? A. That would be the fair—

Q. Would it not? You are a quick man in your mental processes. A. Well, I haven't it in mind. Eight.

Q. Eight? A. Yes.

Q. That would be 96 cubic yards of excavation that you allowed for,—8 times 12? A. 8 times 12, 96, yes, sir.

Q. 96. Did you get that by absolute, accurate measurement? A. I didn't go down under the building to measure that; I reckoned it so deep and so wide.

Q. Did you make any measurement to determine that? A. Not on the foundation.

Q. Did you make any measurements to determine that? A. I didn't have to.

Q. Well, then, you did not, did you? A. No.

Q. If it should turn out that there was more than 255 cubic yards of excavation, would that change your valuation? A. No, sir.

Q. For that building? A. No, sir; I should want to know that there was that there.

Q. Well, I know. I say, assume that there was that there. A. It ought to change it.

Q. It would change it, wouldn't it? A. Yes, sir. I took the—if you will allow me to state—

The CHAIRMAN. Go on.

The WITNESS. I got that excavation by taking the depth that I thought was necessary and the width of the walls, and reduced that to cubic feet, or cubic squares.

Q. That is, your excavation was a matter of opinion? A. Yes, sir,—no.

Q. Yes? A. No, sir; no, sir.

Q. Was it a matter of accuracy? A. It is what I generally figure on on such buildings.

Q. That is, you were reconstructing, you were putting up in your mind a plant, and you figured that it would take about that much excavation for the particular building that you were figuring on? A. That is the old water plant you are talking about?

Q. Yes, sir; certainly. Am I right about that? A. Yes, you are right about that.

Q. Well, where is the puddling allowed for? A. No puddling in my schedule.

Q. Any gravel puddling here? A. I have not got any charge for that.

Q. No. A. That comes in—

Q. Have you got any back-filling? A. I have got no back-filling as an extra charge. That all comes into the excavating.

Q. Tell me, then, how much back-filling you calculated on? A. I could not tell you, sir.

Q. The back-filling came into the excavating. Where did the gravel puddling come in? A. The puddling came in with the stone foundation.

Q. Very well. Tell me how much puddling you allowed for?  
A. I could not tell how much I allowed in so many perch. There was 50 perch of stone at \$2 a perch. That included the puddling and the stone foundation.

Q. Cannot you separate, you with all your experience, the various items that go into the stone, 50 perch of stone at \$2? A. I have not separated it.

Q. And you cannot? A. I have not separated it, no, sir.

Q. Any flagging allowed for in this water plant building? I think there are 450. A. I have 450, yes, sir.

Q. Are you sure you are right about that? A. I measured the building and estimated it from measurement.

Q. If it should turn out there were 49 more, why, then you would want to increase your valuation, would you not? A. Well, if I knew that there was 49 more I should think I did not get enough.

Q. You allow for your flagging 30 cents per square foot?  
A. Yes, sir.

Q. For your water plant building? A. Yes, sir.

Q. I notice on your retort house building you allow 25 cents?  
A. Yes, sir.

Q. Why? What is the difference in price? A. A little stronger foundation, I guess, under that.

Q. Do you have any real reason for that? A. Worth a little more for the heavy stone we have to put in there naturally.

Q. Do you say that there is any difference? A. I don't say that there is any difference, but there should be.

Q. Well, if there is any difference, then, you haven't any reason for making a different price in the one instance than in the other? A. Only the retort building, as a rule, wants a little better foundation than a lighter building.

Q. I notice when you get over to the building and tank, the No. 2 building and tank, you have got 20 cents again for flagging? A. What do you want now? The No. 1 retort—

Q. No. 2 brick building and tank; you have 20 cents for the flagging? A. This is No. 1 or No. 2?

Q. No. 2.

Mr. GREEN. What page is that?

Mr. BROOKS. 5.



The WITNESS. There are five—

Q. I say you have got a price of 20 cents there? A. Yes, sir.

Q. So that you have 20, 25 and 30? A. I guess the flagging was a little different.

Q. You guess it was. Do you know it was? A. I should think it was, yes.

Q. What was the difference? A. I could not tell you, sir. I must have found a difference or I should not have made a different price.

Q. Well, you have no difference in mind at the present time? A. No more than I had at the time when I made these figures.

Q. I see in your retort house roof you have 4 1-2 cents a pound allowed for the iron trusses, and in your water plant building roof you have 5 cents a pound allowed for your iron trusses. What was the occasion for that change? A. Oh, I guess one was heavier than the other.

Q. You guess so? Do you know anything about it? A. I think so, yes, sir.

Q. My friend, don't a pound of iron weigh the same whatever roof it is? A. A pound is a pound.

Q. Yes; a pound sells for a pound, don't it? A. Yes, it does, but you can buy—

Q. What occasions the difference in your price per pound? A. I will give you an illustration. A pound of pipe don't cost as much as a pound of stove plate. You take a very light roof, and it costs more than a heavier roof.

Q. You are talking about the trusses? A. I am talking about the trusses.

Q. Do you say that the trusses in one roof cost more, in your opinion, than they do in the other? A. Yes, sir.

Q. Per pound? A. Per pound.

Q. Per pound? A. Per pound. The water plant cost 5 cents, and the other cost 4 1-2.

Q. Your excavation for your retort house is \$2.40 per square, and in your No. 1 brick building it is \$2.50. Why that change? A. No. 1 brick building, that is the holder—No. 1 holder do you refer to?

Q. You have No. 1 brick building and tank— A. Yes, sir.

Q. —on page 4? A. It is 336 squares of digging, that is, six by six by six, that is what I call a square.

Q. A square is just the same, is it not? A. Yes, sir.

Q. In each instance? A. A large portion of this has to be raised from the bottom of the tank, 25 feet, a good deal of it, and in digging out a foundation for a building you only have about 4 feet. That makes the difference.

Q. Is that the only explanation that you have for your difference in charges? A. Well, isn't that enough?

Q. I don't know. Is it satisfactory to you? A. It is all I have, sir.

Q. And did you have that in mind when you made your estimate? A. I did, sir.

Q. Why do you make any difference in the price for coping, in your value of coping? A. I must have found it different as I found it.

Q. Well, have you any difference in mind between Nos. 1 and 2 brick buildings? A. Nos. 1 and 2 brick buildings? No. 1, \$11; No. 2—oh, the tank, \$11, the same—

Q. What say? A. The tank I have allowed the same, \$11 a thousand.

Q. What are you talking about? A. I am talking about No. 1 and No. 2.

Q. What particular part of them? A. The tank I am talking about.

Q. I am talking about the coping? A. The coping?

Q. Yes. A. I could not tell you.

Q. Of No. 1 and No. 2? A. Yes, sir, the coping—wait a moment, I will see what it is. 50 cents in one case, and 70 in the other. I must have found it a different kind of coping, a different thickness, a little wider or a difference in the measurement.

Q. Did you find any such state of affairs? A. I must have, or I should not have made this difference.

Q. Do you recall it now? A. I do not, no, sir.

Q. Did you go up and examine? A. I did go in there and measure it.

Q. Did you climb up in the roof and examine the trusses to find out whether there was any difference in weight? A. The trusses in the—

Q. The trusses that we have already spoken of. A. In the retort house?

Q. In any of the roofs, yes. A. I got near enough—

Q. Did you climb up in there to find out in the various buildings whether there was any difference in the size of the trusses?

A. I did in the retort house, go so that I could see the difference and get the weight of the iron, and what they were made of in both cases. The water plant was a lighter roof than the retort house.

Q. How did you determine that? A. How?

Q. How did you determine that, by any actual measurement?

A. By measurements, and seeing what the difference was.

Q. How did you get up into the roof trusses? A. Oh, I didn't go away up.

Q. That was my question. Then if you didn't go up you didn't measure them, did you? A. I went up, as I said before, so that I could see about what they were, or what they would measure.

Q. You didn't measure them, did you? A. I didn't go up and put my rule on them. I went near enough to satisfy me what they were, though.

Q. That became a matter of opinion with you? A. Not wholly.

Q. Did you go up above the floor? A. Did I? My impression is that I went up on a ladder, and got up pretty near them.

Q. Do you swear that you did? A. Yes, I can swear I did go up on the ladder a little ways. I could not say how far.

Q. Did you go within 25 feet of the trusses? A. Yes, I was within 25 feet, because the buildings are about 25 feet high.

Q. I know that. I was asking you whether you went within 25 feet. Do you claim that you got any nearer than that? A. Yes, I do.

Q. Did you all through your calculations include the caps and the sills in the windows and the doors? A. I included those in the price that I gave for the doors and windows.

Q. All through your calculations? A. All through these buildings that you have talked about.

Q. All through the buildings of the gas works? A. I won't

say that I did all through until I look it over and see. I know I did in the cases that you are speaking of.

Q. Why didn't you keep doing that? Why did you make any change? A. Circumstances, I suppose, caused me to make a change if I did—

Q. The No. 1 and 2 buildings, you estimate the caps and sills, don't you? A. Yes,—I will see. Caps and sills, yes.

Q. Why didn't you keep up along the same line that you had started on, including those in the value of your windows and your doors? A. In the case of the No.—

Q. No. 1 and No. 2. A. No. 2 and No. 1, I don't know whether they are alike or not. I only allowed \$5 for the windows and a dollar and a half for the sills; that brought it up within 50 cents of the other.

Q. That is No. 2, my friend. A. What?

Q. That is No. 2, my friend. A. Is not No. 1 alike?

Q. Do you think No. 1 was alike? Just look to see what you allowed for caps and sills of No. 1. A. Caps and sills?

Q. For each of them you allowed \$4, didn't you? A. They come in with the windows, window sills. I have called them separate in both.

Q. You have allowed \$4 for the caps and sills of No. 1? A. Yes, probably before—

Q. For each one, I mean? A. Yes, probably before—

Q. I say you have, haven't you? A. Yes, I have.

Q. Do you know now of any reason why you should make a difference between the two buildings? A. I must have found them different as I looked at them, or—

Q. Did you make any measurements of them? A. I cannot say whether I did or not. I would not say that I did.

Q. Does not your schedule show them to be substantially the same? A. No, it does not show them, no,—

Q. Is there any difference? A. I could not tell you, sir, but because of my making two prices—

Q. I am asking you now the fact. I am not asking for an argument. Now, you allowed for all lumber \$32 a thousand, and that includes the labor? A. How much?

Q. \$32 a thousand? A. Yes, sir.

Q. How did you arrive at that conclusion? A. The lumber?

Q. Yes. A. Well, in my figures I allowed so much for the lumber—

Q. I know you did. How did you strike \$32 a thousand for the lumber and the labor? A. You have got through your question?

Q. Yes. A. Well, I—in the first place, I got at the number of feet of lumber, and I called it so much a foot. Then I called the carpenter work, the labor, on that lumber so much, and it made \$32.

Q. How much did you reckon the lumber at? A. I think about fifteen or sixteen dollars; I don't—

Q. What kind of lumber is contained in these buildings? A. In the roofs?

Q. Yes,—I mean for—I will change my question. This \$32— A. Spruce lumber.

Q. —comprehended the planks, timbers and the lumber that went into these buildings? Am I right about that? A. You are talking about roofs now, aren't you?

Q. I am talking about the lumber that went into the buildings, all of it. A. All the buildings?

Q. Yes. And in that item of \$32 a thousand is included the labor? A. Is included the labor, yes, sir.

Q. And the lumber was spruce lumber? A. Spruce lumber. I called it one-half lumber and one-half labor.

Q. Do you know what the value of spruce lumber is in the city of Holyoke? A. I do not now, sir, no.

Q. What say? A. It is three or four dollars higher now.

Q. I am talking about now, 1898. All my questions are directed to 1898, unless I change the figures. A. I could not tell you what lumber was worth—new lumber at that time. I estimated this old lumber in these buildings so much, and the carpenter work putting it together so much, making \$32.

Q. Well, there were various kinds of lumber there, are there not, and timber? A. Oh, there is different sized timbers in the roof, of course.

Q. Is there any Southern pine there?

Mr. GREEN. In any one building or all the buildings?

Mr. BROOKS. In all the buildings.

A. Well, I could not tell without looking it all over.

Q. Have you got anything that will tell? A. I have not—no Southern pine in the buildings that we are talking about.

Q. I am talking about the present buildings of the Gas Company. You didn't calculate on any Southern pine? A. I don't know whether I did or not without looking,—

Q. Did you calculate on any—

Mr. GREEN. Let him finish.

Q. Finish. A. Oh, the doors, the finish, the doors were white pine, I should say they were white pine.

Q. You say you could not tell what the lumber consisted of, or the timbers consisted of unless you looked at something. At what? A. I looked at the timbers, and found that the principal part of the timbers were spruce, and the floors were spruce. I think some of the doors might be made of pine.

Q. Have you any memoranda of the amount of lumber and timbers and of the various kinds in these various buildings? A. I lumped—I took the memorandum of the lumber and reckoned it all in as one, the 6 by 6, the 6 by 8, whatever it was, and the 10 by 2, and the boards, called it so much a thousand, the whole of it.

Q. That is, you lumped—you made a jump estimate? A. No, I didn't make a jump estimate.

Q. Have you anything in your possession showing the timber, lumber and the kinds of timber and lumber in these buildings? A. Well, spruce lumber, as a rule,—

Q. Well, answer my question. A. I have not anything here, no sir.

Q. Have you anything anywhere? A. Well, I think I may have at home, some of my figures. Spruce lumber is spruce boards—

Q. I am not asking you whether it is or not. I assume that perhaps might be true. A. Well,—

Q. Are the prices that you have here for your valuation of the present plant for the new or for the old? A. For the old I am giving you now.

Q. Perhaps you don't understand me, and perhaps I was not quite clear in my question. Are these, these prices for the various materials that you have here, the prices for a new building or prices for an old one? A. Prices for the old material that I found there.

Q. Then you allowed for depreciation, did you? A. Yes, sir.

Q. How much depreciation did you allow for? A. What I thought ought to be; I don't remember now exactly.

Q. What per cent. of depreciation? A. I didn't get at it that way, sir.

Q. You have got 10,000 brick—210,000 brick?

Mr. GREEN. What page, please?

Mr. BROOKS. I will tell you in a minute.

Q. In your estimate of the value of the retort house building on page 2 of your exhibit—No. 86?

Mr. GREEN. Yes, No. 86.

A. No. 2 page here?

Q. Yes. You have got that \$10 a thousand? A. Yes, sir.

Q. What would that have been new? A. I think that—I won't say I think—I found out that buildings were being built for that in Holyoke, and on that particular building I didn't make any discount.

Q. That is, you took it at \$10? A. \$10.

Q. And there was no depreciation? A. No, sir,—well, I didn't make any.

Q. Now, for your doors. You have got 24 doors, \$20? A. Yes, sir.

Q. What would you have those, new? A. I guess that is about the price I would—

Q. That is new, is it? A. Yes, about what they were worth.

Q. There is no depreciation there? A. It is a newish building, not a very old building.

Q. You have 17 windows at \$8? A. Yes, sir.

Q. What was the depreciation there? A. I don't think I made any particular.

Q. All right. Now for your silling. Did you make any depreciation there in the retort building? A. No, sir.

Q. Did you make any depreciation whatever on the retort building? A. Not much on the retort house.

Q. Did you make any? A. I don't think I did.

Q. Well that is what— A. I think I called it new—

Q. If you didn't make any, that is all I want. A. Well,—

Q. Now take the very next one. I will run along down.

What depreciation did you make on the water plant building?

A. I called that as good as new.

Q. There was no depreciation there, in your opinion? A. Well, I didn't make any.

Q. Well, if you didn't make any, it was because there wasn't any, in your opinion? You say it was as good as new? A. A building three or four years old I didn't consider was damaged very much.

Q. Now, I want to ask you if you did not use the same prices for your lumber in the building that you considered as good as new and all the other materials as you have in the buildings that you considered have been depreciating on account of age and other causes? A. The retort house—

Q. Will you just answer my question, if you can, and save me perhaps putting another? A. I can't, the way you put it.

Q. If you can't answer it, say so. (Question read.) A. No, sir.

Q. Does not your schedule throughout show that? A. For the retort house and the other I have no lumber; it is an iron shell, slated on the iron.

Q. Will you just pay attention to my question? I didn't confine it to lumber. A. Oh, you didn't?

Q. No, sir. I want to ask you if you have not used the same prices for all the material of any kind or description that is common to the buildings that you say have depreciated and the buildings that you say are as good as new? A. No, sir.

Mr. BROOKS. (To the Stenographer.) Now, read my question.

The WITNESS. No, sir, I can answer that without; I understand that.

Q. What? A. I understand that.

(Question read.)

A. No, sir.

Q. Now, I ask you this: haven't you used the same prices for all the material that are common to your ideal plant and to the present plant? A. The same? Called them the same?

Mr. BROOKS. (To the Stenographer.) Just read him the question.

The WITNESS. I understand your question.



Q. Then don't ask me if you understand. A. The brick in the new retort house is called the same—

Q. Just take a little time and give me a general answer to that general question, because— A. The retort house—

(Question read.)

A. In the buildings of the retort house I have.

Mr. GREEN. The question is general, as to the entire plant. (The question was read again.)

A. I have answered that once—no, sir.

Q. You understand what I mean. I am talking now about the plant that has not been built. A. Yes.

Q. The stone, the same in price? A. I will have to look that up and say.

Q. You have said that was not true, so I have got to go into that. A. (Examining schedule and memorandum book.) Well, the brick in the water plant I have allowed \$11 for the new—

Q. Now, do you understand my question? A. I think I do.

Q. Now, I will repeat the question. Is not all of the material that is common to the present plant and to your mental plant charged at the same price? A. No, sir.

Q. What is the difference in stone foundation? A. Take a retort house—the stone foundation in the retort house is the same.

Q. What is the difference in your prices of lumber between the present plant and the plant you are going to erect? A. Any particular building?

Q. Any of the lumber, the same that is common to both in kind. A. There is no lumber in the retort house except—

Q. I don't care; don't go into the very details; I am asking you generally. Is there any difference in the prices of lumber in your estimate— A. Yes, sir.

Q. —for the mill that you are constructing on paper and the plant that is actually in existence? A. Yes, there is, some difference.

Q. Where is it? A. It is in the—well, I say there is; I am very sure there is.

Q. I would like to have you find it. A. You take the brick coal shed; the lumber in that building cost \$28.

Q. That is, you have got the lumber in your ideal plant

cheaper than the lumber in the old one? A. The old one is a brick building, sir.

Q. I am talking about lumber—lumber. A. Well, lumber to build a desk of is worth a good deal more than one to build a common roof.

Q. I have asked you with reference to lumber that is common in kind to both plants, the actual and the imaginative. A. I have told you that I have made a difference.

Q. Well, show it to me. A. The lumber in the new, 18,000 feet, \$28.

Q. What kind of lumber is it? A. Spruce lumber.

Q. Spruce lumber? A. Yes.

Q. Then you have got the lumber in your old plant better than you are going to have in the ideal plant? A. No, I guess not.

Q. Spruce lumber at \$32 a thousand? A. Yes. The construction of the roofs might be a little different.

Q. Well, is there any difference? A. I think there is.

Q. Well, tell what it is. A. There might be.

Q. Well, what is the difference? A. I can tell you by the plans more, but I don't know what the construction of the building is.

Q. Take your purifying wash room, condensing and exhauster building, on page 10? A. Of the old?

Q. Of the old, our present plant, of the real good plant, I mean by that. A. Well, you mean the new, then.

Q. No, I mean the old, because the other one is not in existence.

The CHAIRMAN. "Ring out the old, ring in the new."

Mr. BROOKS. Well, it is a "ringer."

The WITNESS. Shall I read you the—

Mr. BROOKS. I am not asking you to read to me; I am calling your attention to one in there.

The WITNESS. Well.

(Question read: "Take your purifying wash room, condensing and exhauster building, on page 10.")

Q. And the same corresponding building for your ideal plant on page 44.

The CHAIRMAN. I want to say, Brother Brooks, that while I was coming up the hill, I heard a gentleman outside of the court house answering your questions.

Mr. BROOKS. I am not surprised. I will ask for a judicial determination whether I speak too loud or not.

The CHAIRMAN. Oh, no.

Mr. BROOKS. It is a remarkable case of deafness. I want to be sure and speak loud enough.

The WITNESS. I told you a little while ago you talked too loud sometimes.

Mr. BROOKS. Oh, you heard me then, eh?

The WITNESS. Let me answer this: there is no comparison between the purifying—

Mr. BROOKS. Wait a minute; wait till I get through, will you?

The WITNESS. All right.

Q. You got the lumber in the new at \$32 a thousand and the lumber in the old at \$35 a thousand for the same kind of building and the same kind of lumber? Is not that so? A. I don't know.

Q. Isn't it so? A. I am going to look and see.

Q. Why, of course; I am asking you to look at your schedule. A. That is what I am doing, sir. (Examining schedule.) Purifying and wash room I have called \$35; that is in the present works—old works, as I called it; \$35.

Q. Yes, and you called it \$32 in the works that you are going to put up in your mind? A. I called that \$35 in the works that we are talking about—new works.

Q. Did you? I want to ask you if it is not just the opposite? Look at your schedule, page 44. A. On page 44 I have called the lumber, the flooring, \$32.

Q. You have got the lumber for the building in your mental erection the same as the lumber for your building in the old plant? A. In the new I have got it \$32.

Q. What? A. \$32 in the new.

Q. Well, I am going to put this question once more. A. Wait a minute, I want to answer that one.

Q. You have allowed \$35— A. Let me answer that other question first.

Q. Well, you wait a minute now; I am going to put this. You have allowed \$35 for the lumber used in the condensing and exhausting building of the present plant and \$32 for the lumber in the plant that you have planned? A. Yes.

Q. And you have allowed that for the roof lumber, too, \$32 per thousand? A. Yes.

Q. Now, I want to call your attention to the— A. No, the roofing lumber is \$28.

Q. Why, look at it; look at page 44.

The CHAIRMAN. He says the roofing in the new building is \$28.

Mr. BROOKS. It is evidently a mistake; his eyes will teach him better.

Q. Don't it say "4500 feet spruce for roof, \$32," on page 44?

The CHAIRMAN. He is calling your attention to this paper.

The WITNESS. Page 44? (Taking up schedule.)

Q. Yes, that is the new building, or the wished-for building.

A. \$32, yes, sir.

Q. Now, you take the stone for your foundation of the same two buildings, in the present plant and in the thought-of plant, and I say that you have for the present plant \$2.25 per perch for stone, and for your hoped-for plant \$2. A. The new is \$2.25?

Q. No, it is not, if you ask me. (The witness laid down his schedule.) Stick to your schedule. A. I have got it here, and I know. (Referring to book.)

Q. My friend, I can't go there and chew up your book. Look on pages 10 and 44 of your schedule. A. 44—the old or the new?

Q. I have asked you for both.

The CHAIRMAN. 10 and 44, he says.

Q. \$2.25 per perch for the present building and \$2 per perch for your would-be structure; isn't that so? A. There is \$2.25 for the—

Q. There is \$2.25 for the old. A. Is 44 the old or the new?

Q. Oh, my—44 is new. A. It is new?

Q. Yes. A. I have got it in my book.

Q. But just attend to the schedule, if you please, because I am asking you with reference to something that is in evidence.

A. \$2.25.

Q. For the old? A. For the new.

Q. Oh! A. Wait a minute.

Q. Look at your schedule, my friend. A. I am looking in my book.

Q. I don't care anything about that book, because that is not in evidence. Look at this schedule, page 10 for the old, page 44 for the new exhauster, condensing and washer building. A. In 44 it is \$2.25.

Q. Well—what is the matter with—just look at that. A. I am looking at it.

Q. "52 perch of stone, \$2." What does that mean? A. Well, that is what it says.

Q. Then it is not \$2.25, is it? A. I have given the wrong figure here.

Q. You will be patient with me if I try to help you out, won't you?

The CHAIRMAN. Is that a question?

Mr. BROOKS. Yes, I think it ought to get into the record.

The WITNESS. Oh, it is \$2.25 a perch for the old; \$2.25.

By the CHAIRMAN.

Q. How much for the new? A. I think it is the same.

By Mr. BROOKS.

Q. What is that? A. I said I thought—\$2.

Q. I will repeat my question. For the stone that you use in the purifying, condensing and exhauster building of the present plant you put in a price of \$2.25? A. Yes.

Q. And for the stone in the same building of your mental plant you have \$2? A. The exhauster—

Q. Will you answer that question? A. It is \$2.

Q. Yes; that answers it. A. But it is a different building altogether; it is a different building altogether.

Q. Different building? A. Yes.

Q. Is there any difference in the price for stone foundations?  
A. Well, there might—

Q. Is there? A. Well, there would be in different kinds of buildings.

Q. What difference did you figure on for foundations? A.

This is a lighter building, the new building; lighter building than the old.

Q. You are going to have the new a lighter building? A. It would naturally be a little lighter.

Q. How much lighter? A. Perhaps three or four inches in thickness on the wall.

Q. You mean by lighter, lighter in weight? A. Lighter in weight.

Q. What is the weight of your new building? A. The weight of the new? I don't remember what I called the new building in thickness.

Q. What is the thickness of the walls of the respective buildings? A. I don't remember what I did call it; I got the number of perch.

Q. Well, you are charging by the perch? A. Yes.

Q. Well, what difference does the lightness of the building make in the price of stone per perch for the foundation? A. Well, in a long building and straight wall, you can do it a little cheaper than you can in a short—work that is cut up.

Q. Did you figure on that? A. I did figure on it, yes.

Q. What? A. Yes, sir.

Q. Where are your figures? A. They are at home, or at the shop, or somewhere; I don't think I can find them.

Q. Substantially the materials that you use in the old and in your mental building are put in at the same price, are they not? A. One is \$2, and the other is \$2.25.

Q. I am asking you a general question. (Question read.) A. No, sir, one is \$2 and the other is \$2.25.

Q. Now, I am going to ask you the general question again. The material that is common to the two plants, the old and the so-called new, are put in in your estimates at substantially the same price, are they not? A. The same price. That is what you said, I think, the same price.

Q. Oh, yes, yes. A. The same kind of stone, but there is two prices.

The CHAIRMAN. He refers not only to the stone, I suppose, but to the rest of it.

Mr. BROOKS. I am trying to get a general question that will save some time, but I guess it won't.

The WITNESS. I think I have answered that question two or three times. One cost—

Mr. BROOKS. Well, maybe you have; I don't know but what you have.

The WITNESS. One I called \$2 and the other I called \$2.25.

The CHAIRMAN. He is not referring in this question to the stone alone, but to all the material—

The WITNESS. Oh, all the material.

Mr. BROOKS. That is common to the actual and the mental structure.

The WITNESS. There will be some difference in it.

Q. Is there any substantial difference? A. Yes.

Q. In the estimates that you have here in this schedule that has become a part of the evidence in this case? A. Well, there will be some difference.

Q. How much? A. Oh, I couldn't tell you without looking it over.

Q. Substantially the same, isn't it? A. Well, not—not the same.

Q. I don't mean exactly, but substantially? A. Well, it would be somewhere near the same.

Q. Yes. A. I could give it to you if you would give me time.

Q. I don't want to do that. You didn't take into consideration in any estimate that you made the water power, did you? A. Not of the water power, no, sir. Excepting—yes, I did, in that little water wheel that is at the old gas works.

Q. I am asking you, is there anything in your schedule—I don't know but there is, my friend—placing a valuation on water power? A. No, sir.

Q. And you make no valuation of water power? A. Of water power, no, sir. I made a value of the conduit.

Q. I don't care about that. That is not power, is it? I am asking you about power. A. No, sir, not on the power. I don't know anything about it, sir.

Q. What do you understand is comprehended in the gas art by the term or word "leakage"? A. Leakage and—leakage and condensation. A good deal of the leakage is attributed to condensation and a good deal is in the leakage.

Q. What else does the term "leakage" comprehend, if anything? A. I don't think there is any.

The CHAIRMAN. I did not understand the answer.

Mr. BROOKS. He does not think there is any.

The WITNESS. There is condensation and there is leakage.

Q. Well, your term "leakage" comprehends condensation? A. Not wholly.

The CHAIRMAN. It does in part, anyway.

Q. Well, doesn't the term "leakage" comprehend stealing as well? A. Well—

Q. That is, doesn't it comprehend all the loss of gas from the time of its generation to the time of its delivery to a particular customer? A. I take that leakage from the holder. The gas is all measured into the holder, so much, and then—

The CHAIRMAN. The question is plain enough; I don't see why you can't answer it.

The WITNESS. Part is with leakage and part is with condensation.

Q. Well, then, condensation is comprehended by the word "leakage," isn't it? A. Well, a good many use it that way.

Q. Do you use it that way? A. Yes, it all comes into—into leakage.

Q. All loss is comprehended by leakage, isn't it? A. I consider it so.

Q. Yes. A. In my estimate, yes.

Q. Now, we are getting down to business. What was the leakage at Holyoke in 1898? A. The leakage in 1897, as I have it, which I have taken from—

Q. I asked you for 1898. A. 1897, you—

Q. 1898. A. 1898. 12.20.

Q. Where did you get that—from the gas report? A. Yes, sir.

Q. How much of that was due to condensation? A. Well, I couldn't tell you, sir.

Q. How much of that was due to losses other than actual leakage? A. I couldn't tell you, sir.

Q. How much, in your opinion, should be due to condensation? A. Well, that makes a difference with the kind of gas you have.



Q. Take their kind of gas. A. I don't know what they have. Some gases will—

Q. Don't you know what kind of gas they make? A. Well, they make coal and water gas.

Q. They mix them, don't they? A. I think they do.

Q. You know in what proportions, don't you? A. No, sir.

Q. Didn't you ever inquire to find out? A. No, sir.

Q. Didn't you have any curiosity? A. Not as to that.

Q. Would it have conveyed any intelligence to your mind or given you any aid in your estimate? A. No, sir.

Q. To be told that? A. No, sir. I didn't consider that any part of my business.

Q. Now, do you know what the temperature of the gas was as it was measured at the station? A. I do not, sir.

Q. Or what its temperature was when it was delivered to the consumer? A. No, sir.

Q. Well, would that knowledge help you in determining the actual leakage? A. I didn't determine that; I took—

Q. Pay attention to my question. A. I took that from the report, as I told you before, 12.20.

Q. Wait a minute. Would that knowledge aid you in determining what the actual leakage was? A. It would, yes, sir.

Q. What was the actual leakage at Holyoke in 1897 or 1898? A. Which will you have?

Q. Actual leakage? Now you understand what I mean by the word "actual." A. 1897—in 1897 it was 13.80.

Q. And you say that that was the actual leakage from the pipes? A. I didn't say it was all actual leakage.

Q. Would you be kind enough to pay attention to my question? A. I will.

Q. I ask you what the actual leakage was at Holyoke in 1897 or 1898? A. I can't tell how much of that 13.80 is leakage.

Q. No, that is what I thought. A. Part is condensation—

Q. That is what I thought—so. A. Part is condensation and part leakage.

Q. Yes; and part might be what was lost in transit by people stealing. They do steal gas, I believe? A. Well, I don't know.

Q. There are various causes that go in to make up leakage? A. Loss, yes.

Q. And all loss is accounted leakage? A. Well, as a rule.

Q. What the actual leakage was you haven't any notion, have you? A. No, sir, not exactly what the leakage was that went through the leaky pipes.

Q. What is that? A. I couldn't tell how much of that 13.80 was actual leakage.

Q. You couldn't tell how much of it was due to any condition of the pipes? A. No, sir, I couldn't tell that.

Q. And you couldn't approximate it? A. I could not.

Q. Did you make any examination of the pipes of the Holyoke Water Power Company? A. No, sir.

Q. You don't know what their condition, of course, was then? A. No, I don't know what their condition was.

Q. You don't know how deeply those pipes were laid? A. They were said to be about 4 feet. I didn't take any up to see.

Q. You don't know? A. I didn't dig them up to know—only from hearsay.

Q. You made no examination. You don't need to dig up pipe to tell how deep it is down, do you? A. Yes, you do, unless you take somebody's word for it.

Q. Can't you put something down through the ground and reach the pipe, and doesn't that tell what the depth is? A. If you are lucky and strike the pipe you can tell.

Q. Do you know how they determine leakage? A. I do.

Q. Where a pipe leaks? A. I do.

Q. They don't have very much difficulty in locating the pipe, do they, with their iron contrivance? A. Sometimes they do.

Q. Most gas plants have a map of where their pipe is laid, do they not? A. Some do.

Q. Well, you knew that Holyoke did, didn't you? A. I did not.

Q. How much of this gas pipe, of your personal knowledge, is under pavement? A. I couldn't tell you, sir; I didn't measure that.

Q. You couldn't tell? A. No, sir.

Q. You made no estimate of how much it would cost to lay that pipe 4 feet down, and under pavement? A. I did.

Q. From what source did you derive your figures that went to make up your result, if you made no investigation yourself? A. I took the price when I was figuring the new work.

Q. I am talking now about the present plant. A. Well, I called it so much; I didn't do any digging.

Q. Did you make any estimate of how much it would cost for the pipe that was laid under paving? A. I was told the pipe was laid about 4 feet. I didn't know the number of feet that was laid under paving; I didn't measure it and didn't know it.

Q. Then there isn't anything that shows in your estimate, is there, accurately—now take your estimate that is in the case, please; don't run off into some memorandum book with me. There is nothing on the schedule that you have filed in this case that would tell accurately the cost of laying pipe under the paving? A. In my new work I have called it 5 cents a square, and that would be the same.

Q. I know; but you don't know how much paving there is? A. I know I don't; I told you so.

Q. Then where is that in your estimate? A. You wait a moment and I will tell you.

Q. There isn't anything in your estimate that shows accurately the cost of the pipe laid under the paving in Holyoke? A. I have called the different sizes so much laid; I haven't allowed in the old anything for paving.

Q. You ought to, oughtn't you? A. I guess when that pipe was laid there wasn't much paving there.

Q. Do you make that assertion? A. I say I don't think there was much paving when these pipes were laid. No, I don't make it as a—

Q. Where did you get that notion? A. Well, pipe laid fifty years ago, a good deal of it, there wasn't much paving.

Q. Is that pipe that was laid fifty years ago under paving? A. I don't think so.

Q. Then why do you drag that in? A. You asked me the question that led me on to that.

Q. Tell me, is there anything that will show the amount of pipe and the cost of the laying under the paving in this old plant? A. Nothing in my estimate, because I didn't know the number of feet. I have called it so much laid, as it lays in the ground.

Q. You haven't allowed anything for any that was laid under the paving? A. I haven't allowed anything extra, no, sir.

Q. You say, don't you, that a small pipe leaks just as much

gas as a big one? A. I made that statement yesterday, but it isn't quite correct.

Q. Well, you made the statement? A. I made it, I think, about some—

Q. You thought so at the time? A. I didn't think much about it. The area—

Q. When did your mental correction come? A. Well, it came to myself; it didn't—

Q. Who suggested you were wrong? A. Nobody.

Q. Well, as a matter of fact the large pipe leaks the more gas, and in the ratio of its largeness, doesn't it? A. No, not so much as that.

Q. Substantially that, don't it? A. Large pipe will leak a little more at the joints, because the joints are larger.

Q. Isn't it true that the large pipe leaks substantially in the ratio of its largeness, as compared with the small pipe? A. No, sir. As a rule a small pipe will leak about as much as a large pipe—the same chances for leakage.

Q. Now you go back to that; you say that small pipe will leak just about as much as a big pipe? A. I said a moment ago that I didn't think it would leak quite as much.

Q. You said just now you thought it would pretty near as much. A. Well, that is what I say now.

Q. You stick to that, don't you? A. Well, I would if you want me to.

Q. Doesn't the pipe leak in the ratio of the surface of the pipe? A. I don't think it does, sir.

Q. Where did you make any test to discover the truth with reference to the ratio of leakage? A. I never have made any test; it is a pretty hard test to make.

Q. Have you ever been present at any test of that nature? A. No, sir.

Q. Have you ever laid street mains? A. A good many.

Q. You, yourself? A. Well, not myself, no. I have been on the trench and ordered it laid.

Q. You have ordered the mains laid? A. I never dug any trenches myself.

Q. I understand that. Have you been superintendent of a job of laying mains? A. I have taken a good many jobs myself

and superintended them in part, been on the work a good deal, like the most of my work.

Q. What are the joints of the present system in Holyoke?

A. I have been told they were made of lead.

Q. What are the joints in your new system? A. I estimate those as being made of cement.

Q. Which is better? A. I think cement is better for gas.

Q. You really do? A. I do, yes.

Q. You are substantially alone in that opinion, are you not?

A. Am I? I didn't know it.

Q. Well, aren't you? A. What?

Q. Aren't you, in the world of the art, substantially alone in that opinion? A. I don't think so.

Q. Isn't the teaching of the profession, if it is a profession, to the contrary? A. I haven't seen anything of that kind.

Q. You never have heard that lead was better than cement?

A. Not for gas joints.

Q. Which is cheaper? A. I think cement would be the cheapest, a little, not very much.

Q. And you think it is cheaper, and it is better, in your opinion? A. I think it is quite as good, sir. Most of the Massachusetts companies lay joints with cement.

Q. That is because it is cheaper, isn't it? A. I said I thought it was a little cheaper.

Q. They lay them in cement because it is cheaper? A. I don't know that that is the reason they lay in cement; I think they think it is better.

Q. You don't think cheapness enters into the problem? A. I don't think so.

Q. Is there any advantage in having pipe laid deeply in the ground? A. Below frost, that is about all.

Q. If it is 4 feet would you say that was better than 2? A. Better than 2 if the frost goes down more than 2.

Q. How deeply do you have your pipe laid in your ideal scheme? A. From 3 1-2 to 4 feet.

Q. Not less than 3 1-2? A. No, sir, it shouldn't lay any less.

Q. Well, is that any less in your calculation? A. No, I calculate from 3 1-2 to 4 feet.

Q. Are there advantages as well as disadvantages in having the gas holder away from the general plant? A. Circumstances alter cases there.

Q. Well, is it fair to take that as an affirmative answer to my question? A. Perhaps not, without an explanation.

Q. I will repeat it. Are there advantages in having the gas holder separated from the main plant? A. Well, if you will allow me to explain—

Q. Answer my question yes or no and then I am going to give you the opportunity. A. No, there isn't; it is better to have the holder near the works.

Q. You cannot conceive of any condition of affairs that would render it advantageous to a community, for instance, as well as to the corporation, to have the holder at some distance from the general plant? A. If you will allow me to—

Q. Just answer my question there. A. Well, I can't answer that. If you will allow me to explain.

Q. Well, you can answer my question yes or no and then you are going to have the opportunity. A. I don't choose to.

Q. Very well. Isn't it a part of the learning of your profession that it is advantageous to have the holders separated from the main plant? A. Under certain circumstances or conditions.

Q. Does the separation of the holder from the main plant have a tendency to equalize the pressure? A. It does.

Q. Is that advantageous, to equalize the pressure? A. It is better, of course, to have the pressure equal.

Q. Then it is advantageous, isn't it? A. Yes.

Q. Are there any other advantages that come to your skilled mind now in the separation of the holder from the general plant? A. It is better to have the holder near the plant.

Q. Just answer my question. A. I will answer it.

(The question was read by the Stenographer.)

A. No, sir.

(Adjourned to Thursday, November 15, 1900, at 10 A.M.)

## THIRTY-FOURTH HEARING.

BOSTON, Thursday, Nov. 15, 1900.

The Commission met in the Court House at 10 A. M.

FREDERICK J. DAVIS, *resumed.*

*Cross-examination by Mr. Brooks, continued.*

Q. Mr. Davis, I would like to have you turn to page 28 of your schedule. That page comprehends the value of the present street mains, laid, according to your opinion, does it not? A. Yes, sir.

Q. Take the first item, "440 feet 15 inch pipe, 44,000 pounds, 1 cent, \$440." A. Correct.

Q. That is at one cent a pound? A. Yes, sir.

Q. And for the digging and laying, it is 25 cents? A. Yes, sir.

Q. Per foot? A. Per foot, yes, sir.

Q. Per foot. So that the cost per foot, laid, of that pipe—the present pipe? A. Yes.

Q. Would be \$1.25? A. Yes, for the pipe and laying.

Q. And for the 10,475 feet of 12 inch pipe laid, the price would be 90 cents, as you have judged it, per foot? A. It would be 1 cent a pound and 20 cents for laying.

Q. Well, that would be 90 cents, wouldn't it? A. Well, I haven't reckoned it up.

Q. Just look at it; substantially 90 cents? A. Well, yes.

Q. What? (Witness made computation.)

Q. I am getting pounds into feet, you see. A. 90 cents.

Q. 90 cents. And your 5,964 feet of 8 inch pipe, constituting 238,160 pounds, laid, would be 55 cents per foot laid, would it not?

The CHAIRMAN. I am going to make these suggestions right here. These computations—of course Mr. Matthews and

Mr. Green follow them, and I think the witness can assume that they are correct. If it happens to turn out later that they are not, he can correct them.

Mr. GREEN. We have not made these figures.

The CHAIRMAN. No, but he can assume subject to correction on these things, that they are correct. He can easily rectify them in the event of their being wrong, because he has evidently got to do a great deal of figuring.

A. 55 cents.

Mr. BROOKS. It can be seen almost at a glance, may it please your Honor.

The CHAIRMAN. You can take his figures and I will guarantee if they are not right, you shall have a chance to correct them. You need not necessarily on any complicated matter, but a thing that you can figure in your mind and see that it is substantially right.

Q. For your 32,033 feet of 6 inch pipe— A. 32,033 feet of 6 inch?

Q. —six inch pipe at 1 cent a pound, making a total value, as you say, for the 6 inch pipe \$8,969.24, there would be a value in your opinion, laid, of 40 cents per foot? A. I would like to figure that before I say that, sir, unless you are willing—

The CHAIRMAN. I suggested that you do it the other way, but you can take your choice about that. These figures have evidently been done and made accurately by somebody.

A. (After making computation.) 40 cents.

Q. That is, the 6 inch pipe laid you value at 40 cents? A. 40 cents a foot, unless I have made some mistake here.

Q. Inasmuch as you agree with me I won't look for mistakes. For the 4 inch pipe laid your value would be 26 cents per foot, wouldn't it? I mean by these questions the present pipe laid. A. 26 cents.

Q. And your value on the 3 inch pipe, the present pipe, laid, is 23 1-2 cents? A. Well, if that is what it figures, 23 1-2.

Q. I don't want to do anything wrong. A. Well, I will figure it then, if you will wait.

Q. Well, I don't care if you say it is right. A. I don't say it is right until I figure it over. (Figuring.) 23 1-2 cents.

Q. I won't go any further in these computations for the pres-



ent. Your price per pound for your pipe is for the pipe alone, isn't it? A. For the pipe alone, yes, sir.

Q. And your digging and laying is the digging and laying alone? A. Digging and laying.

Q. Neither of those prices comprehend any other factor? A. It takes in the paving, whatever that may be.

Q. I thought you told me you didn't know anything about the paving yesterday? A. If there is any, I say; if there is any.

Q. How much paving did you comprehend in your digging and laying? A. I didn't comprehend any.

Q. Well, that is what I thought. Then the price per pound for your pipe comprehends the pipe alone and nothing else? A. The pipe alone.

Q. And your digging and laying comprehends the digging and laying alone? A. The balance, yes; digging and laying, whatever it was.

Q. I mean by this it comprehends the labor alone. A. The labor, yes.

Q. The digging and laying comprehends the one item of labor and nothing else? A. Yes, sir.

Q. That is what I thought. You allow nothing for the lead joints? A. Yes, I do. That includes the lead and laying, whatever expense over the price of the pipe.

Q. Haven't you just told me that the digging and laying comprehend the one item of labor? A. You can't lay the pipe unless you have lead and cement to lay it with; it wouldn't get laid unless you used something to do it with. That had all been reckoned in the price per foot.

Q. The price per foot of what? A. Digging and laying.

Q. How much did you reckon for laying per foot? A. I didn't reckon it that way.

Q. How much did you reckon the lead for each of these various pipes? A. I didn't reckon it by the foot at all.

Q. How did you reckon it? A. So much a joint.

Q. Well, tell me how much you allowed for the laying of this; for instance, the 10,475 feet of 12 inch pipe. How much did you allow for the lead joints in your digging and laying? A. I couldn't tell exactly what I did allow without looking at my former figures, which I haven't here.

Q. Can you approximate how much you allow? A. I should say about 8 or 9 pounds to the foot—to the joint.

Q. Well, in cents how much do you allow? A. I don't remember.

Q. Per pound? A. I cannot tell you here, sir.

Q. Can you approximate it? A. No, sir.

Q. You cannot give me substantially the sum? A. No, I cannot.

Q. How much did you allow for your iron? A. I think I have answered those questions in your former questions.

Q. Well, you will answer this one, unless the Court say that you need not.

The CHAIRMAN. Answer the question.

A. I reckoned the pipe laid so much per foot; that includes the iron, lead, digging, making the joints.

Q. My question was, how much did you allow for it? A. I don't remember what I did allow for that particular—

Q. How much did you allow per pound for your lead? A. I don't remember.

Q. And there is no way of your giving me information with reference to it? A. Not today, sir.

Q. What did you figure for specials, if anything? A. In this case I reckoned the specials in with the pipe.

Q. Well, you mean with the digging and laying? A. Yes, sir.

Q. How much for your specials? A. I have not the amount with me.

Q. You cannot approximate that? A. No, sir.

Q. How much did you allow for the digging and laying alone? A. I think I have answered that question three or four times.

Q. I think not.

The CHAIRMAN. Well, the best way is to answer it again, Mr. Witness.

Mr. BROOKS. I don't agree that he has answered it once.

The CHAIRMAN. I don't say that he has.

A. The digging and laying, I cannot tell what I did allow for the digging and laying alone. I put it all in as one thing, yarn, lead,—

Q. I ask you now what you allowed for the digging and laying alone? A. I cannot tell you, sir.

Q. That answers the question. A. I can look it up.

Q. What? A. I can look it up and give it to you later.

Q. I don't know anything about your looking it up; I mean to bid you farewell today. A. Well, I hope so. I cannot answer that question correctly.

Q. For your new plant,—your new mains rather of your new plant, as shown on page 50, you allow for your 12-inch pipe and the digging and laying of the same, 90 cents, don't you? A. Wait until I find it.

Q. Page 50, I am told. A. 90 cents, yes, sir.

Q. For your 9-inch pipe in your proposed new main you allow 60 cents per foot? A. Yes, sir.

Q. For pipe, and digging and laying? A. Digging and laying and lead for joints.

Q. Everything? A. Everything, yes, sir.

Q. 60 cents? A. Yes, sir.

Q. You allow for the lead, don't you? A. Everything included.

Q. You say lead? A. Lead or cement.

Q. I thought you had cement. Which are you going to have? A. Well, we will use cement.

Q. That is cheaper, is it not? A. I don't think it is much.

Q. Well, I don't ask you whether it is much; I ask you whether it is cheaper. A. It may be a little.

Q. Don't you know whether it is or not? A. I know it is a little cheaper.

Q. Then why didn't you say yes to it? For your 6-inch pipe of your proposed new main— A. 40 cents.

Q. Forty cents for pipe, digging and laying and everything? A. Yes, sir.

Q. How much did you allow for paving in this 40 cents? A. I allowed—

Q. Per foot of your new pipe laid? A. 86,000 feet of paving at 5 cents a foot. That would be extra from the other.

Q. I am talking now about the 6-inch pipe. A. Well, I put that all in together. I allowed so many feet of paving for the whole piping, more or less.

Q. How much there was you didn't know? A. No, sir, I did not.

Q. For your 4-inch pipe of your proposed main you allow 30 cents per foot for the pipe, digging and laying, do you not?

A. Yes, sir, including the material for joints.

Q. Yes. Whether it is lead or cement? A. I think I reckoned this to be laid in cement.

Q. Think you did? A. Yes, sir.

Q. For your 3-inch pipe in your new plant, and for the digging and laying of the same you allow 25 cents per foot? A. Yes, sir.

Q. Now, I notice that in addition to these prices you add 5 per cent. for specials, don't you? A. Five what?

Q. Per cent. for specials? A. Five cents a foot, I guess.

Q. Well, look at your schedule, my friend; don't dispute me until you have seen your own figures. A. Five cents per foot.

Q. Now, are you sure that is right? A. Well, that is what I have answered your question.

Q. Well, your schedule says, Add 5 per cent. for specials, \$3,470, which is just five per cent. of your \$69,400. A. I don't think you have got—oh, specials, you are talking about.

Q. Oh, Lord, yes. A. The specials I added 5 per cent., yes, that is right.

Q. You add, do you, in your new plant 5 per cent. for specials? A. Yes, sir.

Q. Why did you do that? A. Well, I thought that would be about what it would take for the pipe that they were going to lay.

Q. But you just told me you comprehended everything in this price per foot for your new plant? A. For the pipe, yes, I did for the pipe.

Q. The pipe, the digging and the laying and the joints and everything else you told me. A. Now, you are talking about specials. You said nothing about specials.

Q. I will ask you this, why do you add that? A. Because I think it takes about that for that pipe that I propose laying.

Q. If you have added everything, if you have put everything into your price per foot for the pipe, why should you add five per cent. for specials? A. I don't call pipe in all cases specials.

Q. You think it is proper, do you, to add for specials? A. In this new work I do.

Q. Why not in the old, my friend; why didn't you add something for specials there? A. I put it in a little different way on the old.

Q. What different way? A. I reckoned the specials in per foot with the pipe.

Q. You cannot tell me how much per foot you reckoned specials? A. No.

Q. Nor give me any approximation of it? A. No.

Q. Why did you pursue a different course with the new than with the old? A. I knew more about what the specials would be on the new.

Q. Why should you know anything more about what the specials would be on the new than what they would be on the old with the same sized pipe? A. I knew pretty near where the pipe was going to be laid, and that is a rule that I make to allow 5 per cent. on new work.

Q. Why should you not allow 5 per cent. on the old work? A. Because I put that into the pipe, so much a foot for the pipe laid including specials.

Q. But you figure, don't you, the pipe as new in each instance? A. I do on the new.

Q. You do on the old, don't you? A. I didn't put that in so.

Q. You just look at page 26, my friend, again, and I will repeat the question: Didn't you figure the pipe as new in the prices that you have given for the present street mains? A. What pipe? What page?

Q. 26. A. That was the street mains—present mains that are laid, on the present mains that are laid—

Q. Just answer my question,—would the Commission like to have either of these schedules; do you care about them?

The CHAIRMAN. I think you can make better use of them than we can.

Mr. COTTER. You cannot spare one.

Mr. BROOKS. (To the stenographer.) Read him the question.

(The question, "You just look at page 26, my friend, again, and I will repeat the question: Didn't you figure the pipe as new in the prices that you have given for the present street mains," was read by the stenographer.)

A. No, I didn't figure them as new.

Q. What did you figure when you figured your \$440 for your 15-inch pipe? Didn't you figure it as new? A. Well, there was the specials—

Q. Excuse me a minute; will you answer that question. A. As good as new, yes, sir.

Q. Well, you figured it as new, didn't you, and the prices were new prices? A. The prices were new prices.

Q. The prices that you give there are the same prices that you give for your pipe in your new plant? A. Yes, sir.

Q. Then you figured it as new pipe, didn't you? A. Yes, sir, I figured it—

Q. Then why do you tell me that you figured it as old pipe? A. Well, it was old pipe, and the specials—

Q. Well, you figured it as new—

Mr. GREEN. Just a moment; you don't allow him to answer that.

Q. Then didn't you, having figured them as new, take off 15 per cent. for depreciation? A. On some of it, yes, sir.

Q. On some of it; didn't you take off 15 per cent. on all? Mr. MATTHEWS. All what, plant or the pipe?

Q. I will change my question. Didn't you take off 15 per cent. on more than a third of it? A. No, sir; I took off 15 per cent. on \$12,784.21.

Q. My schedule don't say so. My schedule says \$18,784.21. A. It is 15 per cent. on that.

Q. \$18,784? A. Yes.

Q. And 21 cents? A. Yes. That would be the result.

Q. So that there you took your pipe as new, and then you took off 15 per cent. of more than a third of it for depreciation?

Mr. GREEN. Just a moment, Mr. Brooks, the first set of questions you apply to the pipe that that does not apply to at all.

Mr. BROOKS. Well, I don't know what you mean by that.

Mr. GREEN. I know, but you start questioning—

Q. Just answer my question and see if it is not true? A. 15 per cent. on the whole pipe, do you mean?

Q. No; you take off 15 per cent. on more than a third in value new of the old pipe? A. On a certain portion of it that I didn't consider as good as new.

Q. Well, you take off 15 per cent. on \$18,784.21, which is more than a third of your total value new of the old pipe, don't you? A. A portion of the old pipe.

Q. What? A. A portion of it; \$18,784.21 out of \$50,334.17.

Q. \$52,334.17? A. Well, fifty-two.

Q. You have got the same prices, don't you see, new, for the pipe of your old plant and the pipe of the new, substantially?

A. Some additions in there.

Q. Well, wait a minute. I am right about that, am I not? A. No, not quite.

Q. Have I got to go over it again? A. No, sir. It says the same, but the specials come in there as new pipe without any per cent. added for the specials. That would make the old pipe a little less in value.

Q. Why don't you put your specials in with your old pipe? A. Because I didn't want to.

Q. You reckon it as new when you make your price? A. I don't reckon anything for the specials.

Q. No, you don't reckon anything for the specials? A. No.

Q. Although you reckon it as new, you take your new pipe for your new plant at the same price, and you allow a certain amount for the specials? A. I do for the new.

Mr. GREEN. Just a moment. He has not said that he reckoned that as new. You put that in your question.

Mr. BROOKS. I do put it in my question, and I say he said it.

The CHAIRMAN. I think the witness is qualified to answer the question. Do you understand the question, Mr. Witness?

The WITNESS. Yes, I understand the question. If this is not going on record I would like to talk to you or to him.

Mr. BROOKS. (To the stenographer.) Read him that question.

The WITNESS. I can't answer your questions as you ask them yes or no, without a good deal of explanation.

The CHAIRMAN. I wouldn't undertake to, then.

Mr. BROOKS. If you can't answer, say so.

The CHAIRMAN. Simply say so if you cannot say yes or no. You are not called upon to answer the questions except as you understand them yourself. You are answering the questions; nobody else is.

Mr. MATTHEWS. The trouble is, your Honor, I think Mr. Brooks does not give him time to answer his questions.

Mr. BROOKS. I would like to know how much time is required to answer a question.

Mr. MATTHEWS. Some appreciable time is required. He does not give him any.

Mr. COTTER. The witness can state if he requires more time.

The CHAIRMAN. Mr. Witness, you must take all the time you want to answer the questions; answer them in your own way.

The WITNESS. That is what I am trying to do.

The CHAIRMAN. That is all right, I supposed you were. Go ahead, Mr. Brooks.

(Question read: "Although you reckon it as new, you take your new pipe for your new plant at the same price, and you allow a certain amount for the specials?")

A. In one sense I call the pipe the same, but there are things in the old pipe put in, such as specials, which reduce the price of the old. Is that satisfactory? If it is not—

Q. I am not obliged to answer that question, you know. A. I can't answer it.

Q. Is that the only reason that you can give why you did not allow distinctly for the specials—add the specials? A. I think perhaps that is enough.

Q. I asked you if that was the only reason you could give? A. Yes, sir.

Q. That is enough. For the depreciation on the present pipe and the present plant, Mr. Davis, you make an allowance of \$2,817.63. A. Yes, sir; that is, on a certain part of it.

Q. Well, it is the depreciation; you allow for the entire depreciation, \$2,817.63? A. I can't answer that in the light that you put it to me.

Q. Well, why not? A. Because it is only on a portion of that pipe.

Q. I know some of it you do not depreciate at all; some of it you do depreciate? A. Yes.

Q. Some of it is not depreciated and some of it is; is that right? A. That is right.

Q. But your total depreciation for all the pipe amounts to \$2,817.63? A. Yes, sir.



Q. Well, I thought so. A. Well.

Q. And that is all the depreciation there was, in your opinion? A. All the—

Q. Isn't that so—on the pipe?

Mr. GREEN. Why don't you let him answer?

Mr. BROOKS. He can say yes or no to that.

A. That is all the depreciation there was, excepting the specials which would be allowed in there.

Q. Well, you have already allowed for your specials, you told me, in the price of your pipe in the old plant—didn't you?

A. I allowed it in a way which I told you; you shut me off—

Q. I know, and the entire depreciation is represented by the figures \$2,817.63, isn't it? A. That is not the entire depreciation.

Q. What other depreciation is there that you allowed for?

A. Because I didn't allow anything for the specials that are in there.

Q. Well, but you have told this Commission again and again this morning that you included your specials in the price of the pipe. A. I did on the old.

Q. What did you think I was talking about? Did you think that you were answering me that you depreciated your new plant? A. No.

Q. Didn't you know that I was talking with you about the old plant? A. I did.

Q. Well, now, I am going to repeat that question. Your total depreciation allowance for the present pipe in the present plant was \$2,817.63? A. Yes, sir, that is the depreciation which I allowed.

Q. And that is the only depreciation that you allowed for, isn't it? A. Taking my schedule as shown above, it is.

Q. Yes? A. Yes.

Q. In your prices for the old pipe laid you make no allowance for the carting of the pipe from the railroad? A. No, sir.

Q. How much would that be per ton? A. I couldn't tell you, sir.

Q. Could you give me an estimate of it? A. No, sir.

Q. And of course you allowed nothing for breakages? A. No, not specially.

Q. Well, you allowed nothing for the breakages in this case?  
A. What do you mean, breakages in carting?

Q. Yes. A. No, sir.

Q. Did you know that on the 12-inch cast iron present main there were substantially 640 yards of block paving? A. I didn't allow anything for that, I didn't know anything about it.

Q. That should be allowed for if it were a fact, shouldn't it?  
A. I don't think so.

Q. Why not? A. I didn't know it was there.

Q. Well, assuming just with me, please, that there are substantially 640 square yards of block paving above your 12-inch pipe, wouldn't you say that that should be allowed for? A. I couldn't tell whether that block, if I had known about it—whether it was put down before or after the pipe.

Q. It wouldn't make any difference, would it? A. Yes, it would to me.

Q. Why would it make any difference when you came to value the pipe whether it was before or after? A. I valued the pipe what I considered it worth laid in the ground, according to this schedule.

Q. You would agree with me at once, wouldn't you, that if there was this 640 square yards of block paving over the 12-inch pipe it should be allowed for? A. I am not sure it is there. I have no account of that, sir. I refuse to answer that question.

Q. Well, if it were there, of course it should be allowed for, shouldn't it? A. I refuse to answer that question.

Q. You refuse to answer it. Very well, I won't press it. How much would it cost per square yard for the laying of that paving? A. I couldn't tell you.

Q. Would you say one dollar per square yard would be a fair price? A. I couldn't tell.

Q. For the paving? A. I couldn't tell anything about it.

Q. You haven't any conception of it? A. No, sir, I have not.

Q. And your experience would not furnish you any knowledge with reference to the subject? A. I estimate that pipe laid in the ground.

Q. Will you answer the question? A. I can't answer any question about that paving, for I know nothing about it.

Q. I ask you now if your experience and knowledge do not afford you the means of forming an opinion as to what the paving would cost per square foot or square yard? A. I have answered that in my new plant.

Q. Answer my question now.

Mr. COTTER. That is on what page, Mr. Brooks?

Mr. BROOKS. I am referring to the old pipe, the 12-inch pipe, that you find on page 28.

The WITNESS. If I was laying new pipe—

Q. I will put my question once more. Does your experience furnish you any knowledge from which you can form an opinion as to what it would cost to lay the block paving that may be over the 12-inch pipe? A. No, sir.

Q. How then did you happen to estimate on page 50, for your new street mains, 5 cents per foot for 86,000 feet of paving? A. Well, I thought that would be about a fair price.

Q. Where did you get that opinion? A. I called it that.

Q. You called it that. But you have already told me that your experience would not furnish you any information from which you could form an opinion as to the cost of paving? A. I call it that in my estimate.

Q. Well, you called it that? A. Yes.

Q. Do you know how much paving there is upon the present 8-inch pipe line? A. No, sir.

Q. You reckon nothing for that? A. No, sir.

Q. In your value of the old? A. No, sir.

Q. And if there turned out to be 773 yards of brick paving, you have no information and no experience that would lead you to form an opinion as to the cost per yard of the laying of that paving? A. No, I have not.

Q. Now I want to run back to these two pages that I have already called your attention to, Mr. Davis, in the schedule of your valuation of the old and the ideal mains, to wit, pages 28 and 50. In your new you allow 60 cents per foot for your 8-inch pipe laid. In the present plant you allow 55 cents for the pipe as new laid. Why is there the distinction in those figures? A. Well, I suppose I thought that it would cost a little more to dig up the streets new—that it was really worth that as it was laid there.

Q. That is, you considered the pipe as laid, and you thought perhaps it might cost more— A. Cost a little more in the new.

Q. —than in the old? A. I made that difference.

Q. Wouldn't you allow the same cost in January, 1898, for the laying of the old, even laid as it was, as for the laying of the new? Don't you think that would be fair? A. I don't think January would be a very good month to lay pipe.

Q. Well, this all runs back, I understand—don't you—to January, 1898? A. The new doesn't.

Q. Oh, I see. Your new plant is not erected as of January, 1898? A. Yes, erected in 1898, but not in January.

Q. But you have taken the old plant as of January, 1898? A. No, not particularly.

Q. Well, have you generally? A. No, in the season of 1898.

Q. What particular season, in the fall or summer? A. As a rule we lay pipe—

Q. Very well, I don't care what the season is. Why do you make the distinction in the laying of the old and in the laying of the new, in price, if they are laid at the same time? A. It would cost a little more to lay the new pipe than I estimated the cost of the old laid, the circumstances are such.

Q. What items, Mr. Davis, make up the sum on which you take 15 per cent. of depreciation, to wit, the sum of \$18,784.21? A. I would like to look at that book there.

Q. No, take your own schedule. Or that is all right; take anything you have got. A. First, on the \$9,209.56. You may take it on your schedule from \$9,209.56.

Q. On page 28. A. Yes; and the last sum is \$1,145.43. That makes a total of \$18,784.21.

Q. That is, you begin with the item of 3-inch pipe? A. Yes, sir.

Q. And your sum on which you take your 15 per cent. of depreciation comprehends all of the items after that and including that? A. Yes, sir.

Q. Why did you assume 15 per cent. as the per cent. of depreciation upon this sum of \$18,784.21? A. The pipe was all small and a good deal of it was wrought iron, and that was a figure that I assumed.

Q. Can you tell me just the process by which you arrived at the total per cent.? A. I added that amount of \$18,784 and multiplied it by 15 per cent., and it gave me \$2,817.63.

Q. You see you don't understand my question. A. That is the way I want to answer it.

Q. Well, answer my question, if you please. Can you tell me how you arrive at this total of 15 per cent., what processes you employed? A. I had no process; my own judgment—my judgment.

Q. That is, you said 15 per cent.? A. My judgment told me 15 per cent.

Q. And how that 15 per cent. is made up, you can't tell me? A. I have just told you; it is my judgment that made it up.

Q. And you can't tell me the various items of per cent. that go to make up the 15 per cent.? A. On the different size pipes?

Q. I say, you can't tell me the various items of per cent. the total of which is 15 per cent.? A. Well, I take the 15 per cent. off of the whole of those items, if that answers it; if it doesn't, I can't answer it.

Q. Now I want to run back again with you a minute. Why did you make some of the prices for your pipe, and the laying and the digging, the same in the old as in the new, and different in some cases in the old and in the new? A. My judgment told me where I made a difference that there should be a difference.

Q. I know; but you told me that you take in both instances the pipe new. A. In addition to that I told you why I called it new.

Q. Yes; I know you told me why you called it new. Now can you tell me what entered into your mind to make the prices per foot of the pipe laid different in one case than in the other? A. What I considered the difference was in the pipe and in the laying.

Q. That is, you thought it would cost more to lay this new pipe than the old? A. Wherever I have called it more, I have thought so.

Q. Mr. Davis, have you ever laid pipe at the prices given on page 28 in your valuation of the present street mains, at the figures therein stated? A. Yes, and a good deal less.

Q. Where? A. In Waltham, for one.

Q. When? A. Oh, some few years ago.

Q. About how many? A. I can't tell you how many.

Q. About how many? A. Well, call it ten.

Q. Ten years ago. Has there been a rise in the price of iron in ten years? A. I am speaking of the laying, not the pipe. I thought you asked me for the laying.

Q. I asked you for both. A. I couldn't tell you about the iron.

Q. I ask you again. The prices that you have here on page 28, which go to make up your valuation of the street mains, did you ever conform to in your practice in recent years? A. So far as the laying is concerned, I have had it done a good deal less. The pipe varies so from year to year I can't remember, in price. I can't answer that any different.

Q. You cannot? A. No, sir.

Q. You say that ten years ago you think in Waltham you had it done? A. I called it ten. It might have been twenty, it might have been thirty.

Q. Well, within a reasonable time? A. It was within—

Q. Within the ordinary lifetime? A. Yes, I think so.

Q. Well, within recent years have you laid pipe at the prices that you have named here on page 28 of this schedule? A. Well, I don't know that I have within a few years. I haven't laid much pipe for the last few years.

Q. Within recent years have you given estimates for the laying of the sizes of pipe comprehended by the present street mains of Holyoke? A. I don't think I have.

Q. At the prices therein stated? A. I don't think I have, not regular estimates. I haven't laid much pipe in the last few years.

Q. You see my question was as to estimates. A. No, sir.

Q. Within recent years have you given any estimates for the laying of pipe at the prices specified on page 28 of your schedule of valuation of the present street mains? A. No, sir.

Q. You told me yesterday that you made no examination of the present mains of the Holyoke Water Power Company, did you not? A. I haven't done any digging there.

Q. I say, you told me, and you say now, do you not, that you made no examination of the present mains of the Holyoke

Water Power Company? A. If I made such a statement it would be the same this time.

Q. You did make no examination? A. I did not, no, sir.

Q. Do you know what amount of pressure there was in 1898 on the various mains— A. No, sir.

Q. —of this Company? A. No, sir, I didn't test them.

Q. Would the knowledge of the amount of pressure affect your estimate of depreciation? A. No, sir.

Q. What depreciation do you say there is, in your opinion, in this gas plant? Meaning by that, what kinds of depreciation? A. On that 15 per cent. you have reference to?

The CHAIRMAN. He asked you a question, Mr. Brooks.

Mr. BROOKS. My attention was distracted. What was it?

The WITNESS. On this 15 per cent. on the pipe?

Q. Yes, that is all the depreciation you have allowed for on the mains? A. That is all on the mains.

Q. And I ask you now what kinds of depreciation does this allowance for depreciation in the present mains comprehend?

A. That was due on account of the small pipe; wrought iron pipe, mostly.

Q. That is, the depreciation that you allowed for was because of the size of the pipe? A. And the quality.

Q. Well, what was the quality? A. Wrought iron, most of it.

Q. Yes. Now let me see a minute. Your large item of \$9,209.56, which is the first item, as I understand you, constituting a part of the sum on which you take your 15 per cent. of depreciation, is cast iron pipe, isn't it? A. Well, yes, most of it.

Q. What? A. I think it is.

Q. Well, what depreciation did you allow for there, if any? A. I lumped the whole and called the whole so much—from there down.

Q. But the total of the pipe on which you took your depreciation does not amount to any \$18,784, does it? A. Have you reckoned it up, sir?

Q. I have not, except in my mind, and I am so inaccurate with reference to figures that I should not want you to take my word for it. A. From \$9,209.56—

Q. Yes. A. To \$1,145.43, I guess you will find you make, between those two, \$18,784—

Q. But you have depreciated for the digging and laying. This sum of \$18,784.81 is made up not only of pipe, but digging and laying? A. I took it on the whole—

Q. Took it on the whole business?

Mr. GREEN. Why don't you let him answer, Mr. Brooks? You interrupted him in the middle of a sentence.

Q. Well, go ahead, Mr. Davis, and answer. A. I took it on the gross amount from \$9,000 down to \$1,000, as it is stated there. I took it on the whole.

Q. Did you make any different allowance for the depreciation of the digging and laying than you did for the pipe itself? A. I took the whole amount and deducted 15 per cent. from the whole, as you see. That would take the digging and the laying and the piping.

Q. Now of this depreciating sum of which you take that 15 per cent., \$18,784.81, only \$2,700 of that sum is wrought iron, is it? A. I couldn't tell you.

Q. Look and see. A. I took the whole thing and made that discount; that was my judgment.

Q. Will you be kind enough to just look at that and see? Substantially \$2,700 of all this depreciating sum is for wrought iron pipe? A. The discount below the three inch, \$9,574.65.

(Question read.)

Q. Just look at your pipe, the digging and the laying of it. A. It is 15 per cent. off of eighteen thousand—

Q. How much of this estimate of depreciation is comprehended by wrought iron pipe and the digging and the laying of the same? I will put my question that way. A. I didn't make a distinction. I took the small sizes and discounted 15 per cent., which I thought was about right. That is the only answer I can give.

Q. You have told me already you allowed for depreciation because some of the pipe was wrought iron. A. Well, some of it is wrought iron.

Q. There was how much of the pipe in all that was wrought iron that you allowed for any depreciation?

The CHAIRMAN. Isn't it the difference between \$9,000 and \$18,000?



The WITNESS. Yes, sir, about \$9,874. It is about half and half; half wrought and half cast.

Q. It is perfectly apparent, Mr. Davis, I think, if you will look at your schedule—

The CHAIRMAN. On what page?

Mr. BROOKS. On page 28.

Q. —that all the items relating to wrought iron pipe are the last five items on that page? A. Yes.

Q. And if I am wrong you can correct me. A. Yes, that is right.

Q. Now I ask you if all the wrought iron pipe which is comprehended in your depreciation does not amount to \$2,700 in your scheme of valuation on page 28? A. The whole discount is \$2,817.63.

The CHAIRMAN. Well, add up the five last.

Mr. BROOKS. In order to get it into the record. I supposed he could tell me at once.

The WITNESS. I have not made a distinction between the wrought and the cast iron. I take it from 3 inch down.

The CHAIRMAN. I understand that, but what he wants you to do is to add the five last items up there.

The WITNESS. Yes.

Mr. BROOKS. When he gets it done, I will put my question.

A. (After computing.) \$2,752.75, if I have not made any mistake.

Q. So that substantially all the wrought iron pipe on which you make depreciation is about \$2,700? A. There was about that amount, yes.

Q. Yes, sir. A. But what I made the depreciation—

Q. Wait a minute. I want to anchor you there for just a moment. A. Yes; very well.

Q. You cannot tell me, I suppose, how much you allowed in this 15 per cent. of depreciation because of the pipe being wrought iron? A. I didn't make a distinction, sir.

Q. No; that is all right. A. I lumped it in from that size down—from 3 inch down.

Q. What is the most important cause for depreciation of gas mains, if you know? A. The most important what, sir?

Q. Most important cause for the depreciation of gas mains? A. In the wrought iron—

Q. I am asking you now generally about the whole thing. You can begin with wrought iron. A. Well, rust, in a good many small pipes. Depreciation in tapping.

Q. What is the main element of depreciation? A. On the wrought iron pipe it is rust, I should judge.

Q. What is the main factor of depreciation in other kinds of pipe—gas pipe? A. Small pipe, such as 3 inch, is very apt to break, more liable than larger pipe, and in tapping a 3-4 inch hole in a 3 inch pipe you are very apt to break the iron. There is a depreciation there.

Mr. GOULDING. What?

Mr. BROOKS. I don't hear it.

By the CHAIRMAN.

Q. You mean to say, Mr. Witness, that a small pipe is more likely to break than a large one? A. In many cases, yes, sir. For instance—

The CHAIRMAN. I asked that for curiosity—

The WITNESS. You take a small pipe—that is not going in evidence—

Mr. GREEN. Well, I don't know; I had just as lieves it would. I think it better.

The WITNESS. You take a small pipe of 3 inch; you want to take a 3-4 service off of it. That small pipe has to be tapped large enough to put in a service of 3-4 inch or 1 inch or whatever they use. That weakens that pipe at that place, and it is more likely to break than on a larger pipe where you have a larger area or a larger circumference to tap into.

The CHAIRMAN. Well, Mr. Brooks, I have given you a rest.

Mr. BROOKS. I am obliged to you.

By Mr. BROOKS.

Q. Which would you say was the main element of depreciation in a system of mains? A. I have not studied that, sir; I can't—

Q. You couldn't tell? A. No, sir.

Q. Have you named all the elements that cause depreciation that you now recall? A. I may not have, all of them.

Q. Well, I say, that you now recall? A. Yes, yes.

Q. Why, if your total depreciation, as you have already stated, of the present street mains, is \$2,817.63, in your valuation of the present street mains, do you say that \$15,000 is necessary to put them into condition, in substance? A. That is the discount as it is on—page 28, you are talking about?

Q. Yes, I was asking you about page 28. You have already told us that your total depreciation of the present mains was \$2,817.63. A. Yes.

Q. That your total valuation of the present mains was \$49,516.54 after deducting this sum of depreciation. You say later on, on page 65, under the head of "Memorandum of changes in the present plant necessary to make its capacity equal to that of the new plant," you allow \$15,000 for repairing and relaying mains. How do you arrive at that figure? A. I make that as an estimate that it would cost to go over that main—their leakage seems to be pretty large, and it looks to me as though there were a great many leaks, and some of the pipe may have to be changed and put in new; and to dig that pipe up, which might have to be, it would cost in the neighborhood, I should judge, of \$15,000. It may be more, it may be less.

Q. Do you wish to say anything more in reference to that?

A. I don't say that that is the price; it is an estimate price.

Q. I see. But your total depreciation—you are really working in on us a double depreciation, aren't you? A. No, I don't think.

Q. You say your total depreciation was \$2,817.63. A. This is a comparison between—about what it would cost to put the old pipes in condition from the other page there, whatever that is.

Q. Tell me the items that make up this \$15,000, "repairing and relaying mains," shown on page 65. A. Well, in digging up that main there may be a good deal of it that would have to be relaid, new pipe.

Q. There might not be any? A. There might not. If there should not be, so much the better for the Company.

Q. Now, what else? A. Then in digging that up or barring down you may find a great many joints that would have to be repaired.

Q. And you might not find any? A. You might not.

Q. All right. What else? A. That, with repairing the pipe and putting in the new, is about all that you—

Q. There might not be anything required of your \$15,000?

A. There might not. That is my judgment, that it might cost \$15,000. It might cost more than that.

Q. You say that having allowed for your depreciation the sum of \$2,817 in the present main, you do not know that it would cost any more than that to bring the mains up to what you want them according to page 65?

Mr. GREEN. Just a minute. I would like to have that question read. (Question read.) I suppose that is a question put in the form of a statement.

Mr. BROOKS. There is not much doubt about it, is there?

Mr. GREEN. You start, "You say" so and so.

Mr. BROOKS. I have a right to.

The WITNESS. Do you want an answer to that?

Mr. BROOKS. Yes, sir, please.

A. I will answer that according to my schedule there. I depreciated that pipe from 3 inches down 15 per cent.

Q. Yes, I know; and that is your total of depreciation, \$2,817? A. Not necessarily.

Q. Well, you have already testified so, haven't you? A. I guess so.

Q. Isn't it a fact? A. Yes; it has no comparison with this \$15,000. It is merely a depreciation. The 15 per cent. is a depreciation on that pipe as it lays now.

Q. Whether to bring this pipe up to your ideal would cost \$15,000 or not, you don't know? A. Well, that is my estimate. It probably would cost that. Perhaps it may cost more and may cost less.

Q. And may cost nothing above your \$2,817? A. Well, it would cost something to go over and buy the pipe, surely.

Q. Therefore you tacked that \$15,000 into a series of items, making \$57,300 in total? A. Yes, sir; that is not an accurate cost.

Q. No, I suppose not. A. An estimate, roughly estimated.

Q. In recent years, Mr. Davis, have you valued any street mains like the mains of the Holyoke Water Power Company?

A. I have not.

Q. At the prices that you have given here? A. I don't remember the prices that I have valued there; I don't remember about that.

Q. Do you recall any street mains that you have valued, where your valuation has been for the same kind of mains, at the prices that you have given here? A. About the same kind. I don't know about the price.

Q. I am asking about the price. A. I couldn't tell you.

Q. Is there any other concern that you have been called upon to value where you have placed the valuation upon the street mains, for the same sizes, as low as you place it here in this case? A. I couldn't tell you. I haven't those figures with me. I have estimated a good many pipes, the cost and value, but none that would figure up exactly like these in size.

Q. Do you know, Mr. Davis, anything with reference to the character of the excavation for pipes at Holyoke? A. Only by hearsay, by inquiring; I have not examined it myself.

Q. On page 65 of this schedule, under the head of "Memorandum of Changes in the Present Plant necessary to make its Capacity equal to that of the New Plant," I notice that you have an item, "Other improvements, \$3,000." A. Yes.

Q. Make up that item for me. A. I cannot give you a detail of that. It would come under the improvements, enlargement of the exhausters,—

Q. Can you give me any of the details that make up that sum of \$3,000? A. No, sir.

Q. Very well; then we will pass on further, or pass back further. Will you turn to page 3 of your schedule under the head of water plant building, Mr. Davis? A. Yes, sir.

Q. Of the present plant. Is there any concrete there? A. Yes, sir.

Q. Does it show in your schedule on page 3? A. It does.

Q. Where? A. Concrete, \$60.

Q. Oh, yes, I see. How much concrete? A. I could not—I haven't it in mind; I could not tell you, sir.

Q. Can you approximate it? A. No, sir; I made an estimate—

Q. How much did you allow for the concrete? A. I don't remember that.

Q. Per cubic yard? A. I don't remember that. I reckoned it up, measured it as near as I could—

Q. Cannot tell me anything about it? A. And I called it \$80, which I thought was a good price.

Q. Was there any brick paving there?

Mr. GREEN. Is this still page 3?

Mr. BROOKS. Yes.

A. I have 2,000 feet—2,420 feet of paving—

Q. Wait a minute; 2,420 feet of paving? A. Yes, \$217.80.

Q. That would be 269 square yards, would it not, of brick paving? A. I have not reckoned that. I am not sure that it was all brick paving.

Q. Well, assuming that it was all brick paving, that would be substantially 269 square yards, wouldn't it? A. I have not reckoned it; I guess so.

Q. I think I am right about that. A. All right.

Q. How much per square yard did you allow for the paving in this present water plant? A. I don't remember whether a part of that was stone or part brick, and I could not give you the difference of what I did call it.

Q. Assuming that there were this number of square yards of brick paving there, what would you allow per square yard for it? A. I have not any price that I could give you.

Q. Could not give it to me? A. No, sir.

Q. Now, I want to ask you if there was not a good deal more of brick paving than the amount which you have allowed on page 3? A. I could not tell you.

Q. You could not? A. There might be; there might not.

Q. Did you allow anything for painting and fixtures of the water plant building on page 3? A. The painting came in with the doors and frames, so much money, the doors and windows.

Q. And in your doors and windows you included caps and sills?

The CHAIRMAN. You went into that yesterday.

Mr. BROOKS. I understand that; I went into the painting of another building.

A. Yes, I did.

Q. What did you allow for the fixtures in the water plant

building? A. Well, there are four doors; you want it in detail?

Q. I mean what would be known generically as fixtures. A. I have not got anything of that kind here for fixtures. I suppose you mean gas fixtures, or something of that kind?

Q. Very well. How many doors have you got in your water plant building? A. There are four, sir.

Q. What size? A. I have not got the size.

Q. What kind of doors? A. Wooden doors.

Q. Yes, I assume that. Double doors or single doors? A. Well, there might have been one double, and there might have been all, but I think they are mostly single, though.

Q. Have you got any of the details with you? A. No, sir; I have not with me.

Q. Or in your mind, by which you can tell me how you get to this sum of \$32 for the doors? A. I might find it possibly at home or at the works, the details.

Q. You took all the doors at \$8 apiece? A. I took this price because I thought that was about a fair price for it.

Q. There were some of them single and some double? A. I could not tell you, sir; there might have been.

Q. How much excavation have you got for your brick building and tank No. 1?

The CHAIRMAN. Page 4?

Mr. BROOKS. Page 4.

A. 336 squares of digging.

Q. Now, let me see; 336 squares of digging? A. Yes.

Q. Well, that would amount to how many cubic yards? A. Well, you reckon it up; I don't know.

Q. You reckon it if you will be kind enough, because I don't know enough to. A. I will, sir.

The CHAIRMAN. What building is this, Mr. Brooks?

Mr. BROOKS. No. 1 brick building and tank.

The WITNESS. 2688 cubic yards.

Q. 2688 cubic yards of excavation that you allowed for? A. Yes, sir.

Q. How did you arrive at that? A. I got the area of that pit, the area or the square feet per foot in height, got it by rule.

Mr. BROOKS. Will you be kind enough to give me that answer; I didn't catch it?

A. I got the area or square feet in the surface, and then multiplied that by the—

Mr. BROOKS. I was asking the stenographer to read the answer. (To the stenographer.) Will you read the answer?

(The answer was read.)

Q. Would it surprise you to learn that there were 5,000 cubic yards of excavation for this building? A. This building you have referred to, No. 1 brick building?

Q. Yes, the same one. A. Yes, sir; it would.

Q. Do you claim that your figures of 2688 cubic yards are accurate? A. 336 squares of digging I claim are accurate.

Q. Well, that is 2688 cubic yards? A. That is what I have got it, here, yes.

Q. Well, can you—I am requested to ask you just how you arrive at that 336 squares of digging. A. I get the area of the tank of excavating.

Q. What was the area of the tank? A. That tank is—well, about 68 feet in digging there would be.

Q. I am asking you what was the area of the tank; is that the answer? A. No, 68 feet in diameter; you want me to give you the area?

Q. 68 feet in diameter? A. Thereabouts, the digging would be.

Q. Now, what else did you do in arriving at this calculation of excavation? A. I got the number of cubic feet in the tank in excavating, and then divided that by 216 to give me the square.

Q. Have you got the details of that here? A. Not here, no, sir.

Q. Have you given all the steps of your calculation for excavation? A. All the what?

Q. All the steps that you took in arriving at this conclusion for excavation? A. I have given you the number of squares, yes.

Q. I mean in arriving at the number of squares? A. Yes, sir.

Q. You have given all the processes? A. I think so.

The CHAIRMAN. Let us see. That building, 68 feet, as you call it, how deep is that excavation?



The WITNESS. The tank would be dug about 21 or 22 feet in depth.

Q. Yes. And you assumed that your walls were straight down, didn't you? A. I took this dimension outside of the walls.

Q. I say you assumed they went straight down? A. On the inside, I did.

Q. How deep did you go down? A. I think I went down about 22 feet.

By Mr. GREEN.

Q. There is one question I want to ask for my own information. You say you went straight down on the inside. Is there any difference in the way you go down on the inside and the outside? A. I should judge there was the tank offset down, a certain number of feet one thickness, and then a little thinner, and then you get up to the top of the tank.

By Mr. BROOKS.

Q. Where have you allowed for back filling, if you did allow for it, in your number 1 brick building and tank? A. That all comes in with the excavating—all into that.

Q. How much back filling was there? A. I couldn't tell you, sir.

Q. You included that in your excavating? A. Yes, sir.

Q. Did you know that the back filling amounted to 2000 cubic yards? A. I couldn't tell you, sir.

Q. You couldn't tell anything about it? A. No.

Q. Your lumber you take at 15,000 feet? A. Yes, sir.

Q. How did you arrive at the determination of the amount of lumber? Was it an opinion or was it an accurate survey? A. Well, I didn't go up on to the roof to measure it myself.

Q. Did you take it from somebody else? A. No, sir.

Q. It was a matter of opinion? A. Well, not wholly. I reckoned it.

Q. Was it partly a matter of opinion? A. I knew the diameter of the building and I knew the rise of the peak, and then I took the length of the rafters as near as I could get at them, and got at the number of feet.

Q. So your 15,000 feet of lumber in part is a matter of opinion? A. No, sir.

Q. It was a matter of accurate measurement? A. I didn't go up there, as I told you before, to measure.

Q. You didn't put a rule on it? A. I didn't have to.

Q. Then it became a matter of opinion with you, didn't it?

A. No, sir; I tell you I took the diameter of the building, of the roof, across, and got at the height of the centre and then got the feet in the roof.

Q. How many feet were there in the roof? A. I couldn't tell you, sir, now.

Q. Haven't you got it right in your— A. I have got 15,000 feet of lumber in that building.

Q. Can't you tell me how many feet there were in the roof?

A. No, sir. They used some lumber in other places outside of the roof.

Q. Is there anything you have that will give us the detail of this estimate? A. Not with me, no, sir.

Q. Were there any tie rods in the roof? A. I am inclined to think there were some tie rods which I worked into the frame, into the holder. I didn't make a separate estimate of that.

Q. How much tie rod? A. I couldn't tell you, sir; I don't remember.

Q. Can you give me any idea with reference to it? A. I cannot. I have an idea there was some tie rods up on the roof.

Q. Where is the detail of your estimate? A. I have it out at the works.

Q. You knew you were coming in here this morning? A. Yes.

Q. Why didn't you fetch it? A. I haven't been to the works this morning.

Q. Did you go last night? A. No, sir.

Q. You agreed, didn't you, to look up your estimates? A. I have, some. I agreed to look up some, which I have with me.

Q. Have you got any detail for this building other than what you have here? A. I think I must have details either at home or at the works where I figured it up, but still the papers may have been destroyed.

Q. If there were a thousand pounds of cast iron tie rods and

plates for the roof— A. It would be wrought iron tie rods, I guess, if there was any.

Q. I guess very likely you are right, I will change it. If there were a thousand pounds of cast iron plates for the roof and 4000 pounds of wrought iron tie rods, what would you say they were fairly worth? A. A thousand pounds; that iron work is all worked into the roof; the thousand pounds of tie rods would be worth about \$20.

Q. How about the 4000 pounds of wrought iron tie rods? A. Those would cost about 2 cents a pound.

Q. That would be— A. That iron work, I am very sure my memorandum shows, was all taken into the frame.

Q. Where does it show in this schedule? A. It doesn't show in this schedule, it was all worked in.

Q. Then is it included in this schedule? A. I think that was carried—I am not sure—I think it was put into the holder, the iron work of the holder. I haven't got any—

Q. You can't tell me whether or not it was included? A. I could not, no, sir.

Q. How much would you allow in your prices for the iron plates and tie rods—for the putting of them up? A. Well, iron there in 1898 would be put up for about 2 cents a pound—that class of work.

Q. That would be 4 cents, then? A. No, 2 cents.

Q. Two cents for the iron and the putting up? A. It isn't much work to put them up.

Q. You assert that that was so in 1898, do you? A. Yes; iron was very cheap.

Q. But whether or not you have these included you say you cannot now tell me? A. I cannot now tell you, but I think I have a detailed memorandum that the work was in with something else.

Q. Will you pass with me to the next page for a moment? A. Number 5?

Q. Yes, number 5, brick building and tank number 2. You have for excavation of the present number 2 brick building and tank 345 squares of digging? A. Yes, sir.

Q. That amounts to 2760 cubic yards, doesn't it? A. 2760, yes.

Q. How much, then do you allow per cubic yard for the digging? A. A little over 31 cents.

Q. That hole that is being excavated is 22 feet deep, isn't it? A. 20 foot 6.

Q. Well, 20 feet and a half deep. I am talking now about the brick building and tank. That is near enough. And your price is 31 cents per cubic yard for the throwing of that dirt out, taking care of the water and everything? A. A little over 31.

Q. Well, about 31? A. \$2.50 a square.

Q. Well, you told me it was 31 cents? A. Well, 31 and a fraction.

Q. Well, call it 31 or 32, I don't care which. A. Hold on a minute and I will give it to you exactly. 31 1-4 cents.

Q. You say that this excavation, 20 feet deep, could be made, the sides braced if necessary, and the water taken care of and the back filling put in? A. That is all I estimated it.

Q. Well, you say you believe that, do you? A. I do.

Q. What kind of soil do you allow for this excavation? A. Fairly good digging, not to go through rock, I couldn't tell.

Q. Do you know what it was 20 feet down? A. No, sir, I don't.

Q. Whether it was rock or not, you don't know? A. I couldn't learn that there was any rock there.

Q. You don't know whether there was quicksand 20 feet down or not. Did you allow—I mean by my question—for any of these various contingencies in your 31 1-4 cents per cubic foot? A. \$2.50 a square or 31 1-4 cents; that included the whole.

Q. Would you do it for that? A. I would with good digging, yes.

Q. What? A. With good, fair digging, as I supposed there was.

Q. What the digging was you don't know. You took somebody's word for that, didn't you? A. It was represented as being good, fair digging.

Q. What? A. I didn't allow anything for water or quicksand.

Q. For water, quicksand, rock, bracing or back filling, did you? A. The back filling came in with the other, with the digging. I couldn't learn that there was—

Q. Is the amount of the digging a matter of opinion or is it a matter of accurate measurement? A. Accurate; so far as the amount and number of squares, it is accurate measurement.

Q. Of course, if it was 4805 cubic yards instead of 2760 you would increase your figures very materially? A. If it was what?

Q. If it was 4805 cubic yards instead of 2760 you would increase your figures very materially? A. If I found it so I should, of course. It would be so much per square or so much more per yard. I didn't find it that way.

Q. You were there, as I understand you, three days, you think in all, on your various trips? A. I said three to four.

Q. You were going to tell me this morning. A. Well, I will. I have been there more than that.

Q. Well, I don't care whether three or four. A. Well, it was more than four. I didn't give it to you as three or four, no more or no less. I went to Holyoke the first day July 20, 1898.

Q. How long did you stay there that day? A. One day.

Q. You got there sometime during the day? A. Well, I got there along in the morning. I left Boston at 5 o'clock, I remember that.

Q. You got into Holyoke about 10 o'clock? A. Holyoke about quarter of ten.

Q. That is near enough. And then you left at what hour? A. I couldn't tell you, sir. I got home that night, I know. I think I got home along about 6.

Q. You got home to Boston about 6 o'clock? A. As I remember, I got home about 6.

Q. So you left Springfield at 3.22? A. I couldn't tell you, sir.

Q. What was the next day? A. August 25 and 26. I was there over night, two days.

Q. You arrived there and you went away and got home on the next day? A. Most likely at night.

Q. About what time? A. I couldn't tell you, sir; along towards night, two days in coming and going.

Q. I suppose you charged for two days? A. Well, I charged all the time I was there.

Q. What is the next one? A. September 16th. The next was December 12; the next was January 11, 1899; the next was

October 17, 1899; the next was October 25, 1899. No, hold on. I guess this last two was in 1900.

Q. When did you make these various measurements that you claim are accurate? A. The first of my going up there I took most of my measurements.

Q. The first day? A. Some of them, yes, sir.

Q. The first two days comprehended all the measurements you took, didn't it? A. The first two days that I went, and then I went up afterwards to take some different measurements, a little more, and then I have been up two or three days with other parties. That took up so much time.

Q. Who helped you with these measurements? A. I had no help excepting a man to hold the tape measure to measure those buildings.

Q. Who was that? A. I couldn't tell you.

Q. Anybody employed by the company? A. I think it might have been. I think it was a man that was one of the yard men there that took hold of one end of the tape. The machinery I measured myself, and took part of it from drawings.

Q. Have you, in any of the estimates that you have given in recent years for such excavation as you found there at the Holyoke Water Power Company's present gas plant, given the same prices that you are putting here? A. I don't remember that I have the same prices.

Q. Within recent years have you given any as low for similar use? A. Yes, for good fair digging, as I supposed that was.

Q. Where? A. Well, wherever I have done work. I don't know that I have got any particular place in my mind.

Q. Can you name one? A. Yes, Northampton.

Q. When? A. Oh, that was four or five or six years ago. I built a holder there and gave them plans and specifications.

Q. It was eight years ago, wasn't it? A. I guess so.

Q. I said within recent years. Perhaps that was within recent years. A. I have given prices on a number. I can look them up, if you like, but I haven't them in my mind now.

Q. What prices did you give in Northampton for excavation similar to the excavation at Holyoke? A. I don't remember.

Q. Were they as low as these? A. I think they were.

Q. Are you so sure of it that you are willing to so testify? A.

I didn't do that work myself. I made an estimate and gave it to the gas company there.

Q. Was it done for that estimate? Was it done on the basis of your estimate? A. It was done on the basis of my estimate. I didn't do the work, they did it themselves.

Q. What the prices were you can't say? A. I don't remember.

Q. Do you recall any other place in recent years where you have given estimates for similar work, as comprehended by the present gas plant, at prices so low? A. Yes, I gave prices at Attleboro.

Q. When? A. Oh, within two years.

Q. Did you get the job? A. No, they decided to put in an iron—they decided to put in a steel tank in place of a brick tank.

Q. Has there been any work done, so far as you know, similar to the work necessary in the construction of the Holyoke gas plant, at prices so low as you have given here in this place? A. I have considered the place—

Q. Answer the question. A. I don't know that I have, because when I have given an estimate of cost, as a rule the companies have done their own digging, and I don't know how they did come out.

Q. In your excavation you allow for a diameter of 65 feet, is it? For an inside diameter of 65 feet? A. No, sir, outside diameter. That is, the building, on my figures, 65—that was for excavating.

Q. What did you allow for caving? A. With good fair digging I don't allow anything.

Q. And there is no such allowance shown, of course, here? A. No, sir, not here.

Q. What allowances did you make in this price? A. In that price I allowed for the throwing of the dirt in for back filling, which is right handy, not much work to do.

Q. Can you tell me how much back filling there was? A. I couldn't tell you, sir; I wasn't there.

Q. Now, when you come to erect a tank and a holder doesn't it strike you as good judgment to allow a certain percentage for protection? A. As a rule.

Q. I didn't know but you might answer me yes or no; I

would like to have you if you would. A. Well, I will say yes. I will give you what the reasons are if you would like.

Q. Have you allowed any such thing in this estimate? A. No, sir, I have not.

Q. Have you in your experience had accidents happen to your work that you were compelled to make good? A. No, we have an insurance that takes care of that.

Q. That is, you do allow for accidents? A. Not in making the contract, we don't make that as an item, that comes in as a general—

Q. But you work in your insurance in your prices, don't you? A. Not in separate charges.

Q. No, but in the general charge you have that in mind, don't you? A. Yes, we have that in mind, of course, but we have been pretty lucky about hurting men.

Q. It is a pretty good thing to make an allowance for those things, isn't it? A. Oh, a small one; but in making up a proposition for a set of works I don't consider insurance.

Q. You usually, however, do make allowance for contingencies? A. Sometimes I do—sometimes.

Q. Did you have any experience in Malden? A. Yes.

Q. Did you meet with an accident there that was expensive? A. In what respect? In the holder tank?

Q. In any respect—all respects? A. Yes, I had an accident there in digging the tank.

Q. What? A. I had an accident there in digging the tank.

Q. Of a good many thousand dollars? A. Well, it cost me something, yes.

Q. You were insured? A. You mean an accident to men?

Q. No, an accident to the works. A. No.

Q. Have you been understanding me when I talked of accidents as meaning accidents to the workmen? A. No, no, no, I did not.

Q. Have you got an insurance against accidents happening in your construction? A. No, sir.

Q. Well, then you did understand me to refer to accidents to workmen, didn't you? A. At first I did, yes.

Q. Now, I will come back. It is customary with you in the making of your prices to allow for possible happenings, isn't it? A. Oh, contingencies we put in sometimes.



Q. There is no such allowance made in your estimates here?  
A. No.

Q. Very well. A. Not according to my schedule. Not according to this schedule here.

Q. Do you usually, in the course of your construction, have bills for extras? A. Well, I don't mean to have; sometimes—

Q. Well, do you usually? I don't care whether you mean to or not. A. No, I don't usually, but once in a while we have extras and we provide for them.

Q. It is quite a frequent occurrence, isn't it? A. No, it is not; not in my work.

Q. Have you allowed anything here? A. Here?

Q. Yes. A. In this case?

Q. Yes. A. No, sir.

Q. You have in this No. 2 brick building and tank, according to your schedule, an allowance of 2,000 pounds of iron, top rods. See? Last item? A. Yes, I have got it.

Q. I want to ask you if there were not 10,281 pounds? A. Top rods?

Q. Yes. A. I couldn't say; that is all I have — 2,000.

Q. Aren't there 1,707 pounds of bolts?

The CHAIRMAN. How many has he got?

Mr. BROOKS. He makes it \$56 worth.

A. Bolts and nails I have; I didn't count them—

The CHAIRMAN. How much for the top rods?

Mr. BROOKS. He has 2,000 pounds; we say there are 10,281 pounds.

The WITNESS. I didn't count the bolts, I didn't count the nails. I counted the rods, I presume, and took the length.

Mr. BROOKS. I don't hear anything that you say.

The CHAIRMAN. A little louder.

The WITNESS. I counted the rods.

(Answer read.)

The WITNESS. Took the length, and from the size I multiplied that by the pounds per foot; that is where I got the 2,000 pounds.

Q. Well, it was a matter of judgment with you, wasn't it?  
A. In what respect?

Q. In this estimate. A. Yes.

Q. This estimate is a matter of judgment? A. My judgment, yes.

Q. What was the diameter of the top rods? A. I couldn't tell you, sir, now.

Q. Then how could you tell the number of pounds in the top rods? A. I presume that I knew the diameter of those rods when I was there and got the length of them.

Q. You presume now that you might then? Whether you did or not you don't know? A. If I hadn't, I wouldn't have known how to get at the number of feet.

Q. Well, if it should turn out that there were 8,000 or 9,000 pounds more than you have got, you would come to the conclusion it was a mere jump estimate of yours, wouldn't you? A. No; no, I should not.

Q. But shouldn't you say it was a mistake? A. It might be a mistake.

Q. Turn with me to the next page and I will hasten along. "No. 3 brick building and tank." A. Yes.

Q. That is the gasometer, and that is the one at Bridge street, isn't it? A. Bridge street, yes, sir.

Q. You have got 6,800 cubic yards of excavation, haven't you? A. I have got 776 squares.

Q. Is that 6,208 cubic yards of excavation? A. I will give it to you in a moment. (Computing.) 6,008, I make it.

Q. 6,208, isn't it? I don't care, call it 6,000. A. No—well, wait a minute—

Q. I don't care about a few feet or a few yards. A. (After computing again.) 6,208.

Q. Yes, 6,208. How did you arrive at that conclusion? A. I took the diameter of the tank and got the number of cubic feet in that tank.

Q. That is, you took the inside? A. No, I took the diameter of the digging—

Q. What did you allow for the outside digging? A. Well, there was 89 feet 6 inches in diameter by 25 feet 6 inches deep.

Q. How deep was this? A. 25 feet 6 inches deep.

Q. What allowance have you made for supporting the banks? A. I haven't made any, sir.

Q. What allowance have you made anywhere? A. I haven't made any allowance, only so much a square for digging.

Q. You have simply put in the digging, and you have made no allowances for any contingencies? A. I have not in this, sir.

Q. No allowance for caving, for water or for rock? A. No, sir.

Q. Now— A. I estimate that as being fair—fairly good digging.

Q. Did you make any test of the soil? A. I did not, sir, I was not there when that work was done.

Q. How much back fill was there? A. I didn't have any, sir, unless it shows here.

Mr. BROOKS. Well, it does not.

Q. Well, how much was there? A. I couldn't tell you. I called the back filling \$2.50 a square.

Q. You didn't estimate the back fill, did you? A. I did in this way.

Q. Well, that was a jump estimate, was it? A. Well, I don't know; I shouldn't call it a jump estimate. That came in with excavating the number of squares; that includes the back filling.

Q. Would it surprise you if you discovered that the excavation and back filling amounted to 15,000 cubic yards? A. In what—

Q. Instead of 6,208 cubic yards? A. Oh, I don't know that I would be very much surprised.

Q. No; all right. A. But I don't think there is more than I have—

Q. What are you answering now? A. I am trying to answer your question.

Q. Well, you have answered it. A. Well, all right.

Q. I am going ahead to something else.

Mr. GREEN. Is there any objection to letting him finish?

Mr. BROOKS. I object to his having these sporadic outbursts after he has answered the question.

Mr. GREEN. Well, I don't know; I don't think he had answered it, that is all.

Mr. BROOKS. He had answered it all right—not to your pleasure.

Mr. GREEN. I don't wish any instruction about it.

Q. What did you allow for flaggers here, if anything? A. I don't see any on this memorandum. I guess I didn't find any there.

Q. Do you know whether or not there were 1260 feet of flaggers there—square feet of flaggers? A. I haven't got it on my memorandum. I think if they had been there I should have seen them. If I remember, in place of flagging there was plank.

Q. What were the foundations of the various buildings of this plant? A. What were they?

Q. Of the Holyoke Water Power Company's gas plant. Were they stone or brick? A. I reckoned them as stone, mostly.

Q. Well, were they brick? A. Were they brick?

Q. Yes, sir. A. I just said mostly stone.

Q. And you say that most of the foundations of these buildings were stone, do you? A. I should say they were, most of them. The stone may not come quite to the top—

Q. I want to ask you now and direct your attention to the fact as to whether or not most of the foundations of the buildings are constituted of brick? A. I didn't so consider it. I think most of it was made of stone.

Q. The foundations were made of brick, resting upon flaggers? Just think of them a minute. A. I didn't know anything about the flagging. I didn't reckon any flagging under the brickwork—under the stone foundations. The foundations as a rule are made of stone.

Q. I don't care anything about what the foundations are as a rule. I am talking about what they were there. A. I didn't dig down to see what they were; I called them stone.

Q. Assume that they were brick for a moment. A. Yes.

Q. Would that increase your valuation of foundations? A. I couldn't answer that question without—

Q. Why not? A. Because I should want to go into some figures.

Q. Don't you know whether or not the brick foundation would be more expensive than the stone foundation? A. I wouldn't say that it would be, but I should think it would be, a little.

Q. What is the relation between brick and stone as to price? A. What is the difference?

Q. Yes. A. I couldn't say at present.

Q. Per cubic— A. I shouldn't suppose that any Company, if you ask—

Q. I don't care what you suppose that the Company would do. A. All right.

Q. Suppose that it is the fact. A. I assumed that they were a stone foundation.

Q. Now, assume with me that they are brick foundation, which we say they are, would that make any difference with your figures? A. I couldn't tell you, sir, without figuring it.

Q. Can't you tell me the difference between stone and brick? A. I cannot at present.

Q. Can't you approximate it? A. No, sir.

Q. From the realms of your experience? A. I don't choose to at this time.

Q. Well, will you be kind enough to try to? A. Try to here, now?

Q. Yes, sir. A. No, sir, I will decline answering that question.

Q. What was brick worth a thousand in January, 1898, laid in cement? A. I have called that here \$11.

Q. That is laid in cement? A. Yes, sir.

Q. What do you say stone work is worth per cubic yard? A. I have given you that on the back here.

Q. I don't care if you have; I want you to give it to me again. A. Do you want me to look it up?

Q. Can't you tell me without looking it up? A. \$2 a cubic yard—

Q. You would not go much more than \$2, would you? A. I will see what I have here. (Examining figures.) The stone has cost 31 1-4 cents.

Q. What? 31 1-4 cents what? A. A cubic yard.

Q. 31 1-4 cents a cubic yard? A. Wait a minute, I guess I am not right. The stone—I made a mistake the other day.

Q. It is about \$1.11 a cubic yard, isn't it? A. About \$2.

Q. \$2 a cubic yard? A. \$2.30; \$2.30.

Q. \$2.30 a cubic yard? A. \$2.30 a cubic yard or—what I call a perch.

Q. Well, for a stone foundation—take a foundation of stone

and a foundation of brick, how much would the one cost more than the other? A. I couldn't tell you, sir.

Q. Give me some estimate. A. Well, I don't care to, now.

Q. Which would cost the most? A. I should say that the brick would.

Q. And in what proportion? A. I couldn't tell you, sir; I don't wish to answer that.

Q. Would it be 2 to 1, 3 to 1, or 6 to 1? A. I can't tell you, sir.

Q. Can't give me any notion? A. I can't give you any idea. I will tomorrow, if you want it.

Q. Can you give it to me this afternoon? A. I don't think I could; I will try.

Q. Why not? Does that take a great deal of time for a man of your large experience to figure out? A. Not a great deal, but I am going to get some dinner.

Q. I think that is a righteous act on your part. A. I think so myself.

Q. I am inclined to agree with you. But couldn't you, between your mouthfuls, help us about that? A. I never do any figuring when I am eating.

Q. What is that? A. I never do anything when I am eating.

Q. You have made up your mind to eat your full hour, have you? A. No, sir. By the way, I will try and give you that after dinner, if you would like it.

Q. Well, I will be obliged to you. Of course I don't want to deprive you of your food. A. No.

Q. Your food or drink. Well, with this diversion on a dry subject, we will proceed. How did you arrive at the amount of lumber in this No. 3 brick building and tank? A. Well, the same as I got at it—

Q. That is, a matter of judgment? A. Well, measuring the diameter and getting the height of the building, and reducing that to square feet.

Q. You did not go on the roof? A. On the roof?

Q. Yes. A. Oh, I didn't go up there; it was not necessary.

Q. So it is fair, isn't it, Mr. Davis, for me to assume that these estimates are matters of judgment to a large extent with you? A. A matter of judgment after looking it over. I didn't meas-

ure those perfectly, excepting taking the dimensions and getting the height of the centre of the building and getting at the square feet of surface.

Q. Assuming that—

Mr. GREEN. Just let him finish.

The WITNESS. Well, wait a minute. Just getting the square feet of surface and multiply that with the number of feet of board.

Q. That is answering nothing— A. I didn't jump at it and I didn't get at it—

Q. Assuming that there was 51,000 feet of lumber instead of your 40,000 feet, how much would that have increased your estimate? Instead of 40,000 feet, assuming that there was 51,000.

A. Well, I allowed \$32 a thousand.

Q. Mr. Davis, if I have not already asked you, I will; in any estimates in recent years, have you made the prices of lumber such as in the present plant as low as you are making it here?

A. No, sir, I haven't made any estimate for that—

Q. No.

By Mr. GREEN.

Q. You say you haven't made any estimate? A. For a roof like what they have got up there. I have estimated on this, taking the estimated cost—

Mr. BROOKS. What was this question? Have I asked anything that should be answered?

Mr. GREEN. I asked the witness what his answer was, that is all.

Mr. BROOKS. I would like to hear it, if you asked it.

Mr. GREEN. (To the stenographer.) Won't you read it, please? (Mr. Green's question was read.) I did not understand his answer.

Mr. BROOKS. Why should that suggestion come in to aid the witness or to aid the counsel?

Mr. GREEN. You put your question if he had made any estimate in recent years at as low a price. The witness answered, I thought, that he had not made an estimate, which I thought was not possibly the same question. I asked him what he said.

Mr. BROOKS. Can't you ask the stenographer what he said?

Mr. GREEN. If you are so very critical, I might.

Mr. BROOKS. It strikes me it is suggestive to the witness.

Mr. GREEN. The witness had already answered the question.

The WITNESS. I have answered the question, if he has got it all down.

Mr. BROOKS. Well, if he has got it all.

By Mr. BROOKS.

Q. Have you allowed in your estimates of lumber anything but for the bare lumber and the labor necessary? A. I don't know of anything else that you could add—

Q. Well, have you allowed anything? A. No, sir, I considered that \$32 a thousand would pay all the expenses of putting that roof up there.

Q. You have allowed nothing for wastage? A. Well, no, not particularly. We get lumber nowadays—

Q. Well, have you allowed anything for wastage? A. No, sir—

Q. Well, then, answer my question and don't give me an oration.

The CHAIRMAN. He has not given you an oration.

Mr. BROOKS. He started to—beg your Honor's pardon; he started to. I would like to get a direct answer when I can have one.

The WITNESS. You can have it every time.

Q. You allow only for 2800 pounds of tie rods in the brick building and tank? A. Yes.

Q. Do you say that that is accurate? A. As I took it, yes, sir.

Q. Is that judgment? A. As I counted the rods and multiplied—as I took it; that made the number of pounds as I have got it here.

Q. What was the diameter of the rods? A. I haven't it here.

Q. Have you had it anywhere? A. I had it at the time, or I shouldn't have known how much they weighed.

Q. Is it in existence? A. Is what?

Q. How did you get the diameter of the rods? A. I don't think I went up and measured them exactly.



Q. Then you didn't take the diameter? A. Well, I took it near enough in my own mind.

Q. Then it became, of course, a matter of judgment? A. Well, judgment, yes.

Q. That is what I originally asked you. A. I saw them there, and called them so large, and I guess I was right about it.

Q. If you should find that there were, instead of 2800 pounds there were 9052, you would consider that you had erred in your judgment? A. I should consider the other fellow had made a mistake.

Q. I said assuming that there were that, would you agree that you erred in judgment? A. One of us made a mistake, of course.

Q. You wouldn't even now admit that, under those circumstances, you erred? (No answer.)

The CHAIRMAN. What is a tie rod?

Mr. BROOKS. It is part of the roof.

The CHAIRMAN. Is it easily measured, easily looked at?

Mr. BROOKS. I don't know. I think not. I am informed differently.

The WITNESS. Well, I didn't do that. I didn't go up there. There was nothing to get up there with. There was no ladder that I could get up on to the tie rods, but I estimated them at about what I thought they were.

The CHAIRMAN. What was the difference between you on the tie rods?

Mr. BROOKS. A matter of seven or eight thousand pounds. It runs all through every one of these questions I have asked him about. If we had not already shown, we shall show that there have been the grossest errors in the calculation of everything, excavation, lumber, and all the details.

Mr. MATTHEWS. Why don't you add, so that the Court can clearly understand, that you are talking all this time about cost and the witness is giving his estimate of the present value of the plant?

Mr. BROOKS. I don't think you comprehend anything about it. He says there are so many pounds, so much excavation. Does the present value make any difference as to the number of pounds?

Mr. MATTHEWS. You are speaking simply about quantities, are you?

Mr. BROOKS. Certainly; all these questions are with reference to quantity; I have not asked about prices.

Mr. GREEN. He puts it on the basis of what he thinks there ought to be there, based on what he saw.

The CHAIRMAN. But if there is an actual measurement here showing he is mistaken three or four times, certainly it is a matter that attention ought to be called to.

Mr. BROOKS. We shall show that there is.

Mr. MATTHEWS. It would affect the cost, not the value.

The CHAIRMAN. Now he is being examined with reference to his accuracy.

Mr. MATTHEWS. I don't object.

The CHAIRMAN. If the witness has gone so far afield—I don't say whether he has or not—it is an easy matter to determine where the thing has been actually measured, and some attention ought to be paid to it.

Mr. GREEN. Supposing they put in there an amount of iron that is of no use, and a man who is estimating it—this is simply an illustration—estimates it on the basis of proper construction. There isn't any greater value in there in one case than the other. It is merely going to waste. He has taken the sizes and estimated on the basis of proper construction to get at the value. That is what Brother Matthews means in his allusion to the difference between value and cost.

The CHAIRMAN. I am not trying to pass on this question.

Mr. GREEN. I appreciate that.

Mr. BROOKS. Perhaps this may aid the witness, but the witness says he made measurements, he made estimates of what was there, not what ought to have been there, and my friend's suggestion, I don't believe, will make him change.

Mr. MATTHEWS. I wasn't aware he had said that.

Mr. BROOKS. He has said it again and again, and we have been anxious to have him say it, and I don't believe that he will change it now.

The WITNESS. Did I say I went up and measured those rods with a rule?

Mr. BROOKS. No; but he said he estimated on what was actually there.

Mr. MATTHEWS. The witness said, I remember distinctly, he didn't go up into the roof to see just the length and number of these tie rods, but he estimated what ought to be there. He didn't dig down below the surface of the ground to find out what was there, but estimated what ought to be there.

The CHAIRMAN. I think we had better go on with the examination; it is my fault.

Mr. BROOKS. No, I don't think so. It is an illumination to see how my friends regard this.

(Noon recess.)

**AFTERNOON SESSION.**

FREDERICK J. DAVIS, *resumed*.

*Cross-examination by Mr. BROOKS, continued.*

Q. Mr. Davis, have you in the interval between your eating and your finishing figured out for me the difference in the relative cost of brick and stone foundations? A. I have.

Q. Would you be kind enough to inform us? A. The stone will cost, at the rate of \$2 a perch, \$3.70.

Q. I didn't get that. A. \$3.70.

Q. \$3.70 for stone? A. Yes.

Q. Laid? A. Laid.

Q. In cement? A. Yes, and brick at \$6.

Q. That is, \$6 a cubic yard for brick? A. Yes, against \$3.70 for stone.

Q. That is substantially 2 to 1? A. No, not quite.

Q. Well, nearly? A. Well, it is \$3.70, and \$6 would be \$2.30 more for brick than for stone.

Q. Very well. Is that the difference that you have in your schedules— A. That would be the difference, sir.

Q. Between brick and stone? A. That would be the difference. I—had I better explain that? By the way, I would like to recall my evidence on perch yesterday. I said offhand—

Q. Well—

The CHAIRMAN. Let him explain.

The WITNESS. Shall I go on with it?

Mr. BROOKS. Yes, I didn't know whether you cared to go on just now or later, because it breaks up my— Go ahead, though.

The WITNESS. I called yesterday 2 feet x 1 x 24 for a perch. It was just half that. When I went home I looked it over. When I went home I reckoned it over, and I found my number of perch came out right and it was 1 x 1 x 24, which would be 6-7 of a yard.

Q. It would be 48? A. Yes, it would be 24 instead of 48.

Q. Was that suggestion made to you last evening that you had made a mistake? A. Not at all; I made that up myself. I looked at my former figures and I went over it, proved it by that figure, making the perch 1 foot x 1 foot x 24. I was a little off my—

Q. What have you got for your price? Are you going to have it \$2 a perch for stone? A. \$2 a perch for stone, 24 feet, a little less than a yard.

Q. So that you are going to increase your price for stone as stated in your schedule to \$24? A. To bring it up to a yard.

Q. I didn't understand you. A. No. Well, I am going to explain it if I can.

Q. Yes, that is right. A. A perch of stone, as I reckon it, is only 6-7 of a cubic yard.

Q. Yes. A. You add the other seventh to \$2 and it makes it \$3.70.

Q. I don't see it.

Mr. GOULDING. A seventh of \$2 is \$1.70.

The WITNESS. Well, it is 6-7. (Computing.) I may have made a mistake on that here, now.

The CHAIRMAN. Could not this be figured off the stand?

Mr. BROOKS. It is his offer, may it please your Honor.

Mr. GOULDING. It seems to me it would be a good time to understand what a perch is, and what the difference between a perch and a yard.

The CHAIRMAN. I think you are right, Mr. Goulding.

The WITNESS. It is not quite as much as I stated.

Q. What? A. It is not quite as much; about \$2.20.

By Mr. GOULDING.

Q. \$2.22, isn't it? A. About that.

By the CHAIRMAN.

Q. What is \$2.22? A. A cubic yard of stone would be \$2.22, and a cubic yard of brick would cost about \$6.

Mr. GOULDING. I understand it to be that at \$2 a perch, a yard would be \$2.22.

The CHAIRMAN. \$2.22. And brick—

The WITNESS. Stone; stone would cost \$2.22 and the brick \$6.

By Mr. BROOKS.

Q. Then that is pretty close to 3 to 1, isn't it? A. Well, pretty close to 2 to 1.

Q. Pretty close to 3 to 1? A. More than 2, yes.

The CHAIRMAN. Where do we land now—that the relation is \$2.22 to \$6, is it?

Mr. BROOKS. Nobody knows by anything that has been introduced yet, may it please your Honor, where we will land.

The WITNESS. Well, perhaps I can explain it. A perch is 24 cubic feet.

Mr. BROOKS. Yes.

The WITNESS. A cubic yard is 27 cubic feet.

Mr. BROOKS. Yes.

The WITNESS. That is 3 feet more than I call a perch.

Q. Yes. Now, I understand you to say that a perch is 6-7 of a cubic yard? A. A perch of stone costs \$2—

Q. What I am after, do you say that a perch is 6-7 of a cubic yard? A. 6-7, yes, sir.

Q. Well, I would like to have you figure that. Is it? Isn't that 8-9? A. 8-9? There is 24 feet in what I call a perch.

Q. I understand it; and there is 27 feet in a cubic yard. A. Yes.

Q. It is 8-9, isn't it? A. Yes.

Q. Then we will have a perch, instead of being 6-7 of a cubic yard, 8-9 of a cubic yard, won't we? A. (After computing.) Oh, yes.

Q. What? A. Yes, I think that is it.

Q. Then on the basis of 8-9—wait a minute before you answer me—on the basis of 8-9 of a perch to a cubic yard, what do you figure the relative difference between brick and stone for foundation? A. About \$2.80 difference; \$2.80 difference.

Q. You don't mean that? A. \$2.80 difference between brick and stone.

Q. Isn't it a dollar more? No, I don't think.

Q. Well, figure it; figure it. A. \$3.20 for stone, or \$3.22; call it \$3.22—

Q. You haven't got \$3.20 for the stone; \$2.20, you said, didn't you? A. Yes, \$2.20.

Q. Well. Then what is the difference on the basis of a perch being 8-9 of a cubic yard, between brick and stone foundation?

A. It will be \$3.80.

Q. Well, that is what I thought; \$3.80? A. Yes, sir.

Q. That is \$3.80 as against what? A. Against \$2.20.

Q. Well, that would be between three and four times, then, as much? A. No, it would be a little more than twice as much. You take \$2.20 from \$6, that leaves \$3.80, won't it?

Q. Yes. A. Well, one costs \$3.80 and the other costs \$6.

Q. You want to stay by that? A. Yes.

Q. Now, see here. On the basis of your present reckoning, you want to double the number of perch? A. I withdraw that—

Q. Excuse me; wait till I get through this, will you? A. Yes, I will.

Q. On the basis of your present correction you want to double the amount of your stone foundation, don't you? A. No, sir.

Q. Well, why not? A. Because I carried my number of perch out right, reckoning it  $24 \times 1 \times 1$ ; it was carried out right, but I made a mis-statement yesterday offhand, called it  $2 \times 1 \times 24$ ; but our figures were all right at  $1 \times 1 \times 24$ .

Q. Now, I am going to repeat that question again: are you sure that you don't want to double your figures for your stone foundation? A. I don't want to double them, no, sir.

Q. Perhaps you don't want to, but don't you feel compelled to? A. No, sir.

Q. Well, if there was this brick foundation instead of stone you would increase very materially your present value of the gas works? A. Well, I ought to; if I had known it had been all brick, of course it would have been increased.

Q. Certainly, and it would have been increased in the proportion of more than 2 to 1 for foundation? A. It would be increased \$2.20 to \$6—\$3.80 more per perch than I have, providing it was all brick.

Q. Yes. A. But the stone would be better than brick under the ground.

Q. Did I ask you that? A. I answered it.

Q. Did I ask it? A. I didn't ask you to put it down.

Mr. GREEN. I don't know about that. It is part of the answer, I think, and is relevant to the question.

(By direction of the Chairman the stenographer read as follows:)

"Q. Certainly, and it would have been increased in the proportion of more than 2 to 1 for foundation? A. It would be increased \$2.20 to \$6—\$3.80 more per perch than I have, providing it was all brick.

"Q. Yes. A. But the stone would be better than brick under the ground."

Mr. BROOKS. Well, I don't ask any such thing as that, and ask to have it stricken out.

Mr. GREEN. I think it is relevant to the question that is asked the witness.

Mr. BROOKS. Relevant to nothing I have asked the witness.

The CHAIRMAN. I do not see how it is. I think it ought to be struck out.

Mr. COTTER. It is not responsive, Mr. Green.

Mr. GREEN. I know, but it relates back. Will you read the question just before that, Mr. Stenographer?

The CHAIRMAN. But Mr. Brooks has not asked him any question to which he was called upon to make such an answer as that.

Mr. GREEN. If your Honor will permit me, for I think the question in its inception does relate to that.

(The stenographer read as follows:)

"Q. Well, if there was this brick foundation instead of stone, you would increase very materially your present value of the gas works?"

Mr. BROOKS. What was his answer?

(The answer was read as follows:)

"Well, I ought to; if I had known it had been all brick, of course it would have been increased."

Mr. GREEN. They start with the question of value. I don't know how the witness intends to work it out, but it seems to me that the statement that the stone is worth more in the ground than brick bears upon that very question of value, and the next question is made a part of it.



Mr. BROOKS. I have asked no such question.

The CHAIRMAN. Mr. Green, you can straighten that out.

Mr. GREEN. Very well.

Mr. COTTER. In your re-direct examination, Mr. Green.

The CHAIRMAN. I don't think it ought to be done now.

Mr. BROOKS. I desire to suggest that there are these continual interjections that have nothing to do with the matter of my particular inquiry, and while I do not object to the gentleman's explaining anything if he will say that he desires to explain, why, I make no question about it, but I do not desire to have it interpreted as an answer to my question unless it is germane.

Q. You have told us that you are a member of the co-partnership of Davis & Farnham? A. Manufacturing Company.

Q. You told me that you were one of the co-partners? A. I am one of the—

Q. Is that a fact now? A. I am one of the owners, yes, sir.

Q. Are you a co-partner? A. Well, I own stock in that company. It is an incorporated company.

Q. It is an incorporated company? A. It is, yes, sir.

Q. To what extent are you interested? A. Well, I am not sure how much stock I have got; I haven't it in my mind.

Mr. GREEN. Is that of importance, if your Honor please.

Q. Didn't you tell us the other day that you were a—

The CHAIRMAN. Of course I do not see the competency of it.

Mr. BROOKS. Well, he has not answered—

The CHAIRMAN. No, but I do not see what difference it makes how much stock he has.

Mr. BROOKS. Nothing, your Honor, except that he said he was a member of the firm of Davis & Farnham.

The CHAIRMAN. Now he says he owns stock in an incorporated company, and of course he is not a partner.

Mr. BROOKS. I was giving him an opportunity because I thought if it was a large part of the stock he might have considered he was a co-partner. I was doing it for his benefit. I don't care, if my friends don't want it straightened out.

Q. Mr. Davis, did you make any estimates of quantities or material or excavation or digging from any plans that were submitted to you? A. No, sir.

Q. Have you seen the plans that have been introduced here in evidence? A. The Gas Company's plans?

Q. Why, yes, sir. A. Your have reference to the old gas works, the plans of the old gas works?

Q. Yes, sir. A. I have seen them, yes, sir.

Q. Have you made any examination of those? A. Not particularly, no, sir.

Q. When did you see plans that have been introduced here? A. Well, it was some time after I had made my figures up for the —

Q. So that the plans never cut any factor in your estimates? A. Not in my estimates.

Q. The amount of excavation that you have allowed for the brick coal shed, is 34 squares, or 272 cubic yards, is it not?

Mr. GREEN. What page are we, Mr. Brooks?

Mr. BROOKS. Page 7 of the schedule.

A. 34 squares?

Q. Well, that is 272 cubic yards? A. I will take your word for it.

Q. Don't if you don't want to. A. Well, I want to.

Mr. BROOKS. All right, I am glad that I am in good repute.

Q. Did you determine that as a matter of opinion? A. Not as an opinion, until after I had measured the building and estimated the depth of the wall, of the foundation, and the width, and I got that number of squares of excavating.

Q. And that includes back filling? A. Back filling, yes, sir, whatever that was.

Q. And was it in part an opinion—because there is a great divergence between our figures? A. That was my estimate of the cost, of the number of perch under that coal shed, 34 perch.

Q. You mean squares? A. Well, squares, yes, you are right. You reduce that to yards.

Q. That is 272 yards for both excavation and back filling? A. Yes, sir.

Q. Would it surprise you if an accurate calculation and measurement made the excavation and back-fill four times your figures? A. I should think they had got the amount pretty high.

Q. Where is your puddling for this coal shed, in this schedule? A. That comes in with the excavation.

Q. How much? How many cubic yards of puddling? A. I didn't make any yards at all—didn't make any cubic yards.

Q. How many cubic yards of back-filling? A. I didn't make any estimate of that.

Q. Then it is fair to say that this was a matter of judgment with you? A. Not at all, not the whole of it.

Q. Well, tell me how many yards of back-fill there were, how many cubic yards of puddling there were, how many cubic yards of excavation there were. A. I haven't got any; I call it all in the stone.

Q. All in the what? A. All in the excavation, throwing out. That includes back-filling.

Q. But you cannot separate any one of the elements? A. No, sir, I haven't got it separated.

Q. Is that your usual custom, to consider puddling as a part of the excavation? A. Not as a rule.

Q. Why did you in this instance? A. Exclude or include, which did you say?

(The question was read by the stenographer, "Is that your usual custom," etc.)

A. Yes, sir, it is.

Q. And in your estimate did you so consider it? A. I did in this case, yes, sir.

Q. I say do you usually so consider it? A. I do, yes, sir.

Q. What do you consider puddling worth per cubic yard? A. I couldn't tell you.

Q. What do you consider back-fill worth per cubic yard? A. I couldn't tell you.

Q. What do you consider excavation worth per cubic yard? A. Well, it would be \$2.40 per square.

Q. I am now asking you for the excavation, excluding back-filling and puddling. What do you consider it worth per cubic yard? A. I have got it all together.

Q. Can you separate one from the other? A. No, sir, I cannot.

Q. Then we will leave it. How did you arrive at the amount of flagging for your brick coal shed? A. I measured it.

Q. And you say that that is accurate? A. I think so.

Q. No opinion mixed in that. A. No, no opinion. If I hadn't thought it was that I shouldn't have it that.

Q. Well, your thought is your opinion. A. I know it. If I hadn't figured it that I shouldn't have called it that.

Q. Would it surprise you to find that you had only got a third of what there really was? A. Yes, I should be surprised. I should think somebody had made a mistake.

Q. What did you consider for the flagging—the flooring? A. The flooring, yes, sir.

Q. Did you consider any other flagging? A. I don't remember whether there was any there with that or not.

Q. Do you recall any other flagging? A. No, sir, I don't remember.

Q. Was there any flagging under the foundations? A. I couldn't tell you, sir, I didn't see it.

Q. Then if you didn't see it you didn't include it? A. I didn't include it.

Q. So if there were flagging under the foundations it should be included here? A. If it was there I didn't know it and didn't include it.

Q. It should be included if there was flagging under the foundation? A. Well, I don't know; I think it would come into the cost of the foundation.

Q. Did you consider flagging in the cost of the foundations? A. No, sir, I did not.

Q. You figured 7,000 feet of roofing? A. Yes, sir.

Q. And you figured that at 16 cents a foot? A. Yes, sir.

Q. Of what is that roof composed? A. Partly wood.

Q. What kind of wood? A. Spruce, I think.

Q. Do you mean wood and shingles? A. Wait a moment. It might part of it have been shingled, I don't remember.

Q. I am not asking what might have been. What was that roof made of? A. Made of wood. I called it 16 cents a foot, which I considered all it was worth, whatever I found there.

Q. Can you tell me whether it was a shingled roof or not? A. It was a flat roof, I don't think it was shingled.

Q. It wasn't shingled? A. I don't think it was.

Q. Would it surprise you to learn that there were 28,000 shingles in it? A. No.

Q. Did you estimate on the question of shingles? A. I estimated that so much a square foot for the roof, shingles or boards or whatever.

Q. Do you know now whether it was shingled or was not?  
A. Only by what you say.

Q. I am asking what you know. A. I don't know anything about it, no, sir.

Q. What have you got for timber in this brick coal shed?  
A. I haven't got any timber really in there.

Q. How much timber was there? A. I couldn't tell you, sir.

Q. Would it surprise you to learn that there was something like 35,000 feet of timber? A. No.

Q. How many feet of clapboards were there? A. I couldn't tell you that.

Q. Have you allowed for any wrought iron in this schedule?  
A. No. The roof was put in for so much a square foot, whatever that was.

Q. Did you make any allowance for wrought iron, was my question. A. I haven't in my schedule, no, sir.

Q. I will run along with you to the next, leaving out some things perhaps that I ought not to leave out, and ask you what you allowed for concrete in your old wooden sheds in this schedule of valuation, as shown on page 8. A. 1600 feet of concrete.

Q. That was your opinion as to what there was there? A. That is what I have got here, and I suppose that was right.

Q. That would be 177 square yards. If it should turn out that there were 28,280 square yards you would want to change your figure somewhat, wouldn't you? A. No, I shouldn't.

Q. You would stand by it just the same? A. Yes.

Q. You have 8,000 feet of lumber for these old wooden sheds?  
A. Yes.

Q. If it should turn out that there was considerably more lumber your figures would remain the same? A. It would.

Q. And yet your valuation is based upon the quantities that you have in your schedule? A. On this quantity, yes, sir.

Q. Your valuation is based upon the quantities that you have in your schedule? A. Yes, sir.

Q. And if it should turn out there were more you would still stick to your valuation, would you? A. I should unless I should go up there and find more.

Q. If there was more you would still stick to your valuation?  
A. If I went there and measured and found there was more—

Q. Will you answer the questions? A. I will in my way.

Q. Well, answer it yes or no. A. Yes, I should.

Q. You should what? A. I should change my figures if I knew it was so.

Q. And you would change them proportionally, wouldn't you? A. Well, if I went there and measured again I should change them for the difference that I found, of course.

Q. Will you turn to page 10 of your schedule of the valuation of the present plant, and I am going to skip along over these, although there are many things that I might inquire about. Have you got page 10? A. I have, yes, sir.

Q. That is an estimate of your present value of the purifying and wash room, condensing and exhauster building, isn't it? A. Yes, sir.

Q. You have 13,000 feet of lumber there? A. Yes, sir.

Q. You have got that at \$35 per thousand? A. Yes, sir.

Q. Why did you make that \$35 per thousand when in the other instances you have made it \$32? A. My judgment was that it was worth that put on.

Q. What kind of lumber was it? A. Spruce, I think most of it.

Q. The same as the other lumber that you estimated on? A. Oh, it might have been in better condition.

Q. Do you say it was better? A. It would naturally be better, only if I have allowed any more for it—

Q. Do you say it was any better than the lumber in these buildings that you say have not depreciated at all? A. If I hadn't considered the lumber worth \$35 a thousand I shouldn't have put it down here.

Q. Did I ask you that? A. I think so, to that effect.

Q. Do you know what its condition was? A. What your question was?

Q. Do you know what its condition was? The condition of this lumber, in this particular building, that you have valued on page 10 of your schedule? A. I think it must be worth what I have allowed for it.

Q. I didn't ask you that. If I can't get an answer I will pass on. A. Then I can't answer it.

Q. You have got 13,000 feet? A. Yes, sir.

Q. You say you got that by accurate measurements? A. Well, as near as I can measure it by measuring the building. I didn't measure every stick, didn't count every nail nor every bolt.

Q. Would it surprise you to find that there were 33,912 feet of lumber in that very building? A. Well, I shouldn't think it was all there.

Q. You have got 25 windows and 7 doors. That makes a total of 75 caps and sills, doesn't it? A. Sixty-four.

Q. It would be seventy-five, wouldn't it, capstones and sills? A. Sixty-four. There is 25 and 7 is 32, and twice that makes 64. That is reckoned in with the cost of the doors and frames.

Q. Do you know whether as a matter of fact there were 75 there? A. 75 doors and sills?

Q. 75 caps and sills. What I am getting at is, haven't you left out some doors and some windows? A. I don't think I have. I have 25 and 7. I don't think I have left any out.

Q. Did you make that count yourself? A. I did.

Q. Did you go up on the roof to determine what the roofing was made of, and the thickness of the timbers, and so on? A. No, sir, I did not.

Q. You can't tell us what the thickness was or anything about it? A. I could see it within ten or twelve feet, inside; see the roof and see the timber.

Q. What was the thickness of the timbers of the roof? A. I think they were made of 2 x 10.

Q. What was the thickness of the timbers of the roof? A. I couldn't tell you, sir. I don't remember.

Q. Of the sheeting? A. I don't remember.

Q. What have you got for the hardware and fixtures comprehended in this building? A. I haven't got any. That comes in with the \$35; connected with the—

Q. The hardware and fixtures come in with what? A. With the \$35 a thousand for lumber.

Q. The painting comes right in there, with the \$35 a thousand for lumber. A. What little painting there was.

Q. And does the drain come in there? A. No, I should think not.

Q. Was there a drain there? A. I don't think there was. There might have been possibly.

Q. If there was a drain there, did you allow for it? A. I didn't see any there.

Q. If there was one, did you allow for it? A. I should have allowed for it if I had seen one.

Q. Did you allow for a drain or didn't you? A. Let me see if I did.

Q. Well, look and see. A. No, sir, I have got no drain on here.

Q. Will you turn a moment to page 11, the storage, station meter and lime room. You have got 126,000 brick in that building. A. 126,000, yes, sir.

Q. Is that a matter of judgment with you? A. No, sir, that is taken from measurements.

Q. Do you swear that that estimate is accurate? A. I think so.

Q. Would it surprise you if you found out there were 186,840 brick in that building? A. I should if they reckoned what I have reckoned here—if they have measured what I have measured.

Q. On that theory, they have not only measured what you have, but they have measured more? A. Perhaps it belongs to some other building.

Q. Yes; if it was that building it ought to go into some other one? A. I don't think there was more than that in that building mentioned, no, sir.

Q. How did you arrive at your determination of the number of brick? Have you anything here that will tell the story? A. I can tell you how I got it.

Q. Have you got anything on paper? A. No, sir, only what is here.

Q. Will you go over to the next page with me, page 13 of your estimate, the one wing blacksmith shop. A. Yes, sir, I have it.

Q. Does that include the valve room? A. No, sir.

Q. You have a separate and independent estimate for the valve room of the present plant? A. For the one wing water gas meter room—I guess you would call that a valve room.

Q. What amount of back-filling do you allow for in this schedule? A. Not any, sir.



Q. Of the water gas meter room? A. Not any. This is the one wing, page 13?

Q. Yes. How many flaggers do you allow for? A. Which page are you on, 13?

Q. The one I asked you about, the same page. A. I haven't got any, sir.

Q. Are there flaggers there? A. I didn't see any, sir.

Q. What were the fixtures of that room? What did they consist of? A. I couldn't tell you, sir, here; I may have it.

Q. What have you allowed for the fixtures? A. This is on the building, sir.

Q. The fixtures are a part of the building? A. No, sir.

Q. Where have you made any allowance for fixtures in this water gas meter room? A. I think you will find it somewhere here.

Q. Do you say there is any such allowance in your schedule? A. I think there is.

Q. Turn to it. I am talking now about fixtures, not machinery. A. No, I have got no fixtures in that room.

Q. Then you have made no allowance for fixtures, have you, if there are any there? A. There is nothing in this schedule.

Q. Well, there were radiators and plumbing and steam pipes and a bath tub and so on. A. I have given that in another way.

Q. Where? A. In some of my figures.

Q. Show me them in this schedule. A. It isn't in the—

Q. Is there any allowance in this schedule for the fixtures? A. No, sir, there is not, not in this schedule.

By Mr. GREEN.

Q. Do you mean there is no allowance in the whole book, or anywhere in your figures, or simply on this page? A. There isn't any allowance on this page, but there is an allowance somewhere on the whole work.

By Mr. BROOKS.

Q. Show it to me in the schedule. A. I haven't got it in this schedule. I told you I hadn't it there. I have got a schedule somewhere of piping and fixtures through the works.

By Mr. GOULDING.

Q. You say that is not in that schedule? A. It is not on this page of this schedule.

By Mr. BROOKS.

Q. Is it on any page of that schedule? A. I think it is.

Q. Of this schedule that is in this case? A. I have got the schedule.

Q. Show it to me on any page of the schedule that is in this case. A. I don't think it is in any schedule for this particular—it is embodied in all of the fixtures and piping.

Q. Show me where it is in this schedule. A. I will see if I can find it if you will wait.

Q. In the schedule that is in this case.

Mr. GREEN. The book he holds is the book from which this is made, and he seems to find it easier there.

The CHAIRMAN. Well, he can turn to it if he wants to.

Mr. BROOKS. I will pass it along if it is going to take time.

The WITNESS. I can find it in time. It isn't in this schedule; it is embodied with something else.

Q. With what? A. With the fixtures through the works.

Q. Show it to me anywhere in this particular schedule. A. I haven't got it.

Q. Now your counsel says that this schedule is based upon those books that you have there. A. Yes.

Q. Who prepared this schedule that is in this case? A. That schedule was taken from my book.

Q. Who prepared the schedule that is in this case? Can you answer that? A. I don't know the woman's name—the typewriter.

Q. Who prepared it? You know what I mean. A. I prepared it in the first place.

Q. Did you prepare this schedule that is in this case? A. I prepared a copy of that, which I will show you right here.

Q. Was this a copy of your books? A. That was taken from this.

Q. Do you say this is a copy of your books? A. I think so. I have examined it once and I found it a copy.

Q. You found that your books and these schedules were exactly alike? A. I did.

Q. And there isn't any question about that, is there? A. I don't think so.

Q. And the original estimates from which this schedule is made up are in these books? A. Yes, sir, all taken from the books.

Q. Then if this schedule is a copy of these books, why are not the fixtures in your schedule? A. Because I didn't put it into this part of the work.

Q. Then your schedule is not a copy of your books, is it? Is it going to take long to answer that? If it is, I will leave it. A. No, it won't take long to answer it. It is.

Q. You say that the schedule is a copy of the books. A. It is.

Q. Are you willing those books should go in evidence? A. If it is necessary, I am.

Q. Will you leave them with us to look over? A. Oh, yes, certainly.

Q. Mr. Davis, will you turn with me to page 22 of your estimate of the value of the present plant. The heading of the page is Interior of Retort House. You have as your first item of valuation 10 benches of sixes, including foundation and iron work, \$10,000. What do you mean by that, 10 benches of sixes, including foundation and iron work? A. This means the foundation under the benches, the benches themselves, the chimneys, and the iron work connected with those benches.

Q. How much foundation? Can you give me any of the details that make up that valuation? If you cannot I will hurry along. A. I can give it to you later.

Q. I am asking you now. Can you give it to me now? A. No, I cannot.

Q. You considered that as good as new? A. No, sir.

Q. What was the amount of your depreciation of that ten benches of sixes? A. About half what it would cost to build entirely.

Q. That is, it would cost new \$20,000 or more? A. \$20,000. I think that is what I called it.

Q. What had become disintegrated about it that would occasion this tremendous depreciation? A. 12 to 15 years of service.

Q. You simply depreciate it on account of age? A. Well, yes, on account of age.

Q. And how much did you depreciate the various elements that went to make up that ten benches of mechanism? A. Ten benches of sixes worth about \$20,000, and I called this one half. (The question was read by the stenographer.)

A. \$10,000 in the whole.

Q. Didn't you understand my question? A. I did.

Q. Will you be kind enough to answer it? A. I didn't reckon that separately in the different parts of the bench.

Q. Then why didn't you tell me so? Is there any element that you can tell me the depreciation of in that mechanism of ten benches of sixes? A. No, sir, no further than what I have told you.

Q. Have you told me of any element that had depreciated? A. Yes.

Q. What? A. 50 per cent. on the cost of new.

Q. The various parts that go to make up the benches, can you tell me the depreciation of? A. No, sir, I cannot.

Q. Have you estimated? A. I have got it in the estimate somewhere.

Q. Where? A. Somewhere, I don't know where.

Q. Whereabouts? A. I don't know whether I have got it with me or not.

Q. Is it on earth, so to speak? (No answer.)

Q. Well, pass it, it takes too long. Did you notice — can you tell me what amount of renewals and repairs had been applied from time to time to those benches? A. No, sir.

Mr. GREEN. Mr. Brooks, I find among some papers Mr. Davis gave me, two here; probably one of them is his—in regard to bench work. I would like to ask him if that is what he referred to.

The WITNESS. I thought I had one here, but I don't find it.

Mr. BROOKS. You may ask him later; I don't care about it now; for I have gone by it at the present.

Mr. GREEN. All right.

Q. Were these benches doing active and effective service, so far as you could determine? A. I don't know.

Q. Well, so far as you know, they were? A. So far as I know,—I don't know.

Q. How long they would live with proper care you cannot say? A. As a rule—

Q. I am talking about these; I don't care about your rule.  
A. I can't tell.

Q. How long a mechanism will live depends upon the amount of medicine that is injected, if I may so speak of it, from time to time, doesn't it? A. That would have something to do with it.

Q. Well, a very large something, wouldn't it? A. Quite likely.

Q. That is, it would depend upon the extent of the renewal and the repairs? A. They would have to be going along all the time.

Q. I say, the life and efficiency and service would depend upon the extent of renewals and repairs, wouldn't it? A. Well, possibly.

Q. What else would it depend on? A. Well, some parts of that work that would—benches might settle or the arches crack that could not be repaired.

Q. Couldn't they be repaired or renewed? A. Without being renewed.

Q. Well, I have asked you—will you just keep to my question? The life and effectiveness depends upon the renewals and repairs, doesn't it? A. Not wholly.

Q. Were these walls cracked that held these benches? A. They were, yes, when I was there.

Mr. BROOKS. What is his answer? (Answer read.)

Q. You swear to this court that the walls were cracked that held these benches, do you? A. I don't say so.

Q. Were the walls cracked when you were there? A. I didn't look at the—

Q. Were the walls cracked? A. I didn't look into the inside of the arches to see whether they were or not, so I don't know.

Q. Did you see any cracks in the walls? A. I don't know that I did in particular.

Q. Did you in general? A. You can't look at a bench anywhere without seeing cracks in it.

Q. I am talking now about the walls. Do you say those walls were cracked that supported the benches? Why fence with me? Say yes or no to me. A. Yes, they were cracked somewhat, more or less.

Q. Where? A. Well, you could see it on the outside; I couldn't tell on the inside.

Q. Were there any cracks there that could possibly impair the efficiency of the benches? A. Any crack in a bench will impair the efficiency.

Q. Were there cracks in the benches? A. I don't know whether there were any in the inside or not; there was on the out.

Q. Were there any cracks that you could see that could possibly impair efficiency? A. Any crack in a bench will impair the efficiency of a bench.

Q. Was there ever a bench that didn't have a crack? A. Well—

Q. Did you ever know of one? A. Sooner or later they will crack.

Q. Sooner or later? Did you ever see a bench that was not cracked? A. Yes, sir.

Q. Was that after use or before it was used? A. You didn't ask me about that.

Q. Do I ask you now? A. Yes.

Q. Would you be kind and condescending enough to give me an answer? A. Yes, sir.

Mr. BROOKS. (To the stenographer.) Then read the question and let the answer be anchored. (Question read.)

A. I never saw a bench but what was cracked more or less after being used a few months.

Q. How much did you allow for depreciation for any crack that you saw up there in these benches? A. I allowed 50 per cent. on the whole bench work.

Q. Would you be kind enough to answer my question? A. Well,—

Mr. BROOKS. Read him the question.

The WITNESS. If you will excuse me, I would like to say a word, but I won't.

Mr. BROOKS. Just read him that question.

The CHAIRMAN. It is just as well, Mr. Davis, not to—

The WITNESS. Beg your pardon.

The CHAIRMAN. It is just as well for you to answer the question.

The WITNESS. Will you give me the question again?

(Question read.)

A. I didn't allow in particular for cracks, but for the work in general right through—

Q. Well? A. That is the only answer I can give you.

Q. How old were the benches? A. I think they are about 12 years old; I am not sure, sir.

Q. Did you come to a conclusion by examination what their age was, looking at their teeth, so to speak? A. Yes, I found out as near as I could how long they had been built.

Q. What was your judgment from your personal examination of them as to their age? A. I couldn't tell by examining.

Q. You couldn't tell? A. I got that from some other source.

Q. By examining them you could not tell whether they were young or old? A. Oh, I could tell that they were old, but I couldn't tell how old.

Q. What is the life of a bench when proper care is taken of it? A. From 20 to 25 years.

Q. In your profession have you known of benches that have been in existence for 40 years, doing active, accurate— A. No, sir—

Q. —and absolutely good service? A. No, sir, I don't, but I know benches that—well, you haven't asked me that question.

Q. Is there any reason, with proper care, why these benches should not last and do effective service for another 25 years? A. They might, they might not; I couldn't answer that.

Q. It would all, Mr. Davis, depend, would it not, upon the care that was taken? A. I couldn't answer that question, for I don't know.

Q. I say, it would all depend upon the care that was taken? A. Not wholly; not wholly, sir.

Q. Almost entirely, wouldn't it? A. Not wholly. I don't wish to answer that question; that is a little out of my line.

Q. That is, it is out of your line as a gas works engineer to say whether or not care and renewals and repairs would lengthen life of mechanisms? A. It would lengthen their life, sir, but you asked if it would not lengthen them 25 years, and I couldn't tell you.

Q. Beg your pardon; that was not the question that I asked

you. You had already answered that previously. Now, Mr. Davis, these benches were not but six years old, were they? A. How much? As much as six?

Q. Did you hear my question? A. I don't think I did.  
(Question read.)

Q. In 1898, remember. A. Can I ask him when they were built?

Q. Yes, sir, they were built in 1892.

The WITNESS. What, that whole building—that building built in 1892?

Mr. BROOKS. The benches were put in and the erections were connected with them in 1892. I am answering your question.

The WITNESS. I thought it was about 12 years, or longer than that.

Q. What? A. I thought the building had been built twelve years.

Q. If you found that these benches were not but six years old, you would want to boost your figures higher, wouldn't you? A. I shouldn't want to change my figures any.

Q. Oh, you would not? A. No.

Q. But you based your figures upon the fact that they were 12 years old? A. Well, the building, I thought, was built about 12 years ago, and I supposed the benches were put in at that time.

Q. If you found as a matter of fact, Mr. Davis, that the benches had only lived half of the time that you had assigned to them, wouldn't you want to increase your valuation? A. I might not.

Q. What do you allow for depreciation on iron work where there has been perfect care and attention given to it? A. Well, I haven't any particular per cent. on that.

Q. What did you allow in this instance for depreciation on iron work? A. Well, I couldn't tell you.

Q. You couldn't tell? A. No.

Q. Iron lives for many years if proper renewals and repairs are made, does it not? A. Yes, if you keep putting in new and throwing away the old.

Q. Did you furnish anything for this building? A. I think not.



Q. What? A. I think not; nothing but the plans.

Q. The plans? A. I think I made the plans that these buildings were built from.

Q. Oh; I see. You are talking now about the present plans? A. The present plans.

Q. Did you furnish any of the mechanisms? A. I furnished the plans. I furnished no work there; I didn't get the contract for doing the work.

Q. What are buckstaves? A. That is part of the iron work which I didn't furnish; I don't think I furnished any iron work.

Q. I want to ask you if you did not furnish the buckstaves for this very building, or your concern? A. They might have sent some of them; I couldn't say.

Q. You don't know of that? A. They might have ordered a few buckstaves and I not know about it.

Q. You have got some upright Manning boilers here—because I must hasten along? A. Yes, sir.

Q. How old are those? A. I couldn't tell you, sir.

Q. What was the cost of those boilers new, January, 1898? A. I allowed \$1,400 for the 2.

Mr. BROOKS. Repeat my question, please; I would like an answer to it.

(Question read.)

A. I couldn't tell you, sir.

Q. Don't you know what those boilers would be worth new January 1, 1898? A. No, sir.

Q. You say you don't know how old they were? A. I think I got the price—

Q. I say, you say you don't know how old they were? A. No, sir, I don't.

Q. Well, is this \$1,400 your judgment? A. My judgment of what they were worth.

Q. Yes? A. Yes.

Q. What they would cost new in 1898, or how old they were you cannot tell? A. I cannot, sir.

Q. By how much did you depreciate them? A. I can't tell you, sir.

Q. Did you make any examination of their condition? A. I looked at them thoroughly; I didn't go inside of the boilers.

Q. What the amount of your depreciation was you cannot say? A. No, sir, I cannot.

Q. You looked at the exterior of the boilers? A. Well, I looked at them pretty well.

Q. I say, did you look at anything more than the exterior of the boilers? A. No, sir, I did not. I didn't go inside the boilers; they are tubular boilers; I didn't want to.

Q. Run along over to the next page, will you, please? A. Page 23?

Q. Yes, sir. There are many items that I might ask you about, but I am going to confine myself to fairly few items. You have got down there in your estimate— A. Page 23?

Q. On page 23 of your schedule of that erection— A. Yes.

Q. "54 Brenner lids and frames at \$7, \$378." A. Yes.

Q. What are Brenner lids? A. It is a self-sealing lid that they put on to the mouth of retorts.

Q. You say that there were Brenner lids on these retorts? A. I think so; I think they were.

Q. You swear to it? A. I think so.

Q. Are there other kinds of lids? A. A good many.

Q. Would it make any difference with your valuation if you found they were not Brenner lids? A. I don't think it would; the lids are about all of a price.

Q. What did you consider those would be worth, new, January 1, 1898? A. A little more than twice what I allowed for them.

Q. How old were they? A. I couldn't tell you, sir.

Q. Doing good, active and efficient service, so far as you could determine? A. I presume so.

Q. And in good condition? A. So far as I—fairly good.

Q. Why did you depreciate them 100 per cent. or more? A. 50 per cent. or a little more.

Q. 50 per cent. or a little more? A. Well, I depreciated the whole bench, and that was part of the bench that I depreciated.

Q. You depreciated this item specially? A. I depreciated the whole of it.

Q. Was there any reason, really, Mr. Davis, why you should pick out that item of 54 lids and depreciate that 50 per cent. or

more? A. The 54 Brenner lids were there, and I gave them the same depreciation that I did on the balance of it.

Q. In what had they depreciated? A. In use.

Q. But you don't know how long used? A. I don't know how long they had been used.

Q. You say they were in good condition? A. Fairly good, so far as I could see.

Q. Did you make an examination of them? A. I didn't take them off to examine them thoroughly.

Q. Did you go up to them and move them? A. I don't think I opened one of them.

Q. Don't think you did? A. No.

Q. Of course if they were not in first class condition they couldn't be used, could they? A. Oh, they use them after they get to leaking some, more or less.

Q. Was there any leak in these? A. I don't remember, sir.

Q. Did you see any leak? A. I don't remember of seeing any; still, there might have been. It is not an uncommon thing to have lids leak, even though they are pretty good.

Q. On that same page you have got 54 mouth pieces 14 x 26, 250 pounds apiece, 13,500 pounds. A. Yes, sir.

Q. You have got those separate and distinct from the Brenner lids? A. Yes, sir.

Q. I want to ask you if the mouth pieces and the frames in this particular plant were not one and the same altogether? A. I don't think they were.

Q. Are there such kinds? A. I think there is a kind made that the frame is made on the mouth piece.

Q. Do you say that that kind does not exist there? A. I don't say that it doesn't, but I called them the Brenner lids when I looked at them.

Q. You would be all wrong, wouldn't you, in your valuation if you found the mouth pieces and the lids were one and the same—that is, parts of the same piece? A. Oh, no, the expense would be about the same whether the frame is made on the mouth piece or made separate.

Q. How about the depreciation? A. That would be the same.

Q. How much did you depreciate those mouth pieces? 50 per cent? A. I depreciated the whole thing 50 per cent.

Q. Did you make an examination of the mouth pieces to determine efficiency and their age? A. Did I?

Q. Yes, sir. A. No more than to look at them as I saw them there.

Q. Did you make an examination? A. Well, I didn't take them down to examine them.

Q. How old were they? A. I couldn't tell you, sir.

Q. What was there wrong about them? A. What was there wrong?

Q. Yes. A. Why, there were running. I don't know as there was anything—

Q. Anything wrong that you saw? A. They were running.

Q. The mere fact that they were running caused you to depreciate? A. No; for the age that I supposed they had been running.

Q. What was their age? A. I think about 10 or 12 years; 12 years, I think.

Q. Where did you get that information? A. The time that the building was built—I supposed that they were built at that time.

Q. You assumed that they were 12 years old? A. Yes.

Q. Where are your hydraulic mains and standpipes in this schedule? Does it come under the head of 9 24-inch mains and 18 flanges on this same page, 23? Do you find it? A. Yes, sir, 9 24-inch mains, 1,750 pounds each.

Q. You have depreciated those? A. I depreciated the whole bench 50 per cent.

Q. Those pipes last for 50 years, don't they, or more? A. No, they are not apt to.

Q. With proper care and attention? A. Well, they are apt to give out before that time.

Q. Do you know as a matter of experience that they do last for 50 years and more with proper attention? A. No, sir, I don't.

Q. Never knew of a case? A. I have known a good many mains to break in less time, wear out in that way.

Q. Have you ever known any to last for 40 or 50 years? A. No, sir.

Q. What are those mains? A. What are they?

Q. Yes, are they standpipes? A. No, sir, they are mains.

Q. What is their service; what do they do? A. Hydraulic mains. They receive the gas from the retort through the standpipe, bridgepipe and dip-pipe.

Q. Did you know that their age was six years? A. I didn't know it was six years.

Q. If they were only six years old, would you want to put your figures higher for them? A. No, sir, I would depreciate—

Q. What? A. Well, I did depreciate that bench what I thought—

Q. Oh, but you told me you depreciated everything 50 per cent. A. What?

Q. You told me you depreciated everything on that page 50 per cent.? A. Yes, 50 per cent.

Q. Are there any standpipes here? A. Yes, there are.

Q. Where does that appear, because I can't see it? A. 54 standpipes at \$200 apiece.

Q. Well, I don't find it. A. 1, 2, 3, 4, 5—

The CHAIRMAN. What page?

Mr. BROOKS. I see it.

Q. "54 standpipes"? A. Yes.

Q. You depreciated those 50 per cent? A. I depreciated the whole bench.

Q. I understand; you depreciated those 50 per cent. How old were they? A. I couldn't tell you, sir.

Q. The condition of everything was perfect, wasn't it, as far as you could discover? A. No, I didn't consider it perfect. If I had, I shouldn't have called it worth 50 per cent.

Q. What was there about these that was not perfect? A. Oh, a general wear and tear of a bench would indicate that there was wear and tear—the age and the use—whatever time they had been used.

Q. What was there—point to something definite in the condition of the mechanisms on this page that was not perfection. A. Well, the benches were cracked some, and the use of the iron work would indicate that they were not as good.

Q. Now we are talking, you know, about what is on page 23. A. 23; that is what I am on, and I discounted the whole thing and gave it 50 per cent, my best judgment.

Q. Was it your idea to make a low valuation? A. My idea in making them?

Q. I say, was it your idea to make a low valuation? A. No, sir.

Q. On behalf of the city? A. No, sir; no, sir.

Q. But the— A. My idea was to give what I thought they were worth.

Q. And that was the theory that you really went on, was it? A. All through the works.

Q. It was a second hand theory that you went on, wasn't it? A. Not wholly.

Q. Was it partly? A. No, sir.

Q. Well, then, why, when I asked you if it was a second hand theory, why did you say not wholly, if it was not at all? A. Well, I thought that would be an answer for the question.

Q. Now, my friend, isn't it a fact that much of this valuation is based upon second hand theory? A. No, it is based on the value of the material as I found it.

Q. And it is not based at all on second hand theory? A. Not wholly, no, sir.

Q. Not wholly; well, we will leave it there. Will you run with me for a passing moment to page 56 of your estimate of the mechanisms for your ideal plant? Have you got the page, Mr. Davis? A. I have got page 56.

Q. I call your attention to the last item on that page, 60 Brenner lids and frames, you have, at \$18 apiece? A. Yes, sir.

Q. Amounting to a grand total of \$1080? A. Yes.

Q. And those were new? A. Those were new, yes.

Q. Why don't you give us for the Brenner lids that you estimated—why don't you give us the \$18 in the old plant? A. I don't think they were worth it.

Q. No, but you say that you depreciated 50 per cent.? A. Yes.

Q. That made them \$7; that would make the Brenner lids in the old plant, if new, worth only \$14? A. I depreciated the whole bench 50 per cent.

Q. You depreciated it 50 per cent.? A. Yes, sir.

Q. Shouldn't you give us credit for \$4? A. Those might not have cost \$14.

Q. You are talking about 1898; I don't care what they cost.  
A. Yes.

Q. You should make those Brenner lids the same price, shouldn't you, before they depreciated, to be fair? A. Well, there is a difference there.

Q. Well, honestly, now, Mr. Davis, you would kind of hoist up, wouldn't you, the value of the Brenner lids in the old plant?

A. Oh, I don't think I should. I should call them what I have called them, I called them what I thought they were worth.

Q. Why, my friend, you say you depreciated them 50 per cent.; that would make their value new \$14 for the old plant; and yet you say that a new plant over here is worth \$18. All right; let it go. Where do your retorts for your new plant show up? I have lost the page.

Mr. GREEN. What is that you are looking for?

Mr. BROOKS. The retorts for the new plant.

Mr. GREEN. The page that I have is 56.

Mr. BROOKS. It does not show on here. I will take something else; I won't stop for that. I will look it up during the night.

The WITNESS. I can't tell from my book.

Q. What? A. I can't tell from my book.

Q. As a matter of fact, for your new plant you have got a smaller retort than there is in the old one, haven't you? A. I don't think I have. Smaller retort?

Q. Yes, sir. A. I haven't given—

Q. For your million capacity plant you have got a smaller retort than you had in the old one, haven't you? A. I haven't given any size on the old retorts. The benches—

Q. Isn't the retort in your new plant of one million capacity smaller than the retort in the present plant? A. I think they are the same size. I add one bench, the iron work; that is about all the difference.

The CHAIRMAN. That is what the witness probably thinks is the retort courteous.

Mr. BROOKS. Oh, dear! I think that ought to go in the record.

The CHAIRMAN. No, that can be kept out.

Mr. BROOKS. Because that retort, I think, is fully as large as the one at the present gas house.

Q. Will you produce your plan for your ideal structure, Mr. Davis?

(The plans were produced and given to witness, who proceeded to open the package.)

Mr. BROOKS. I am not in a hurry.

The WITNESS. If you are not in a hurry you will wait till I get this untied.

Mr. BROOKS. What?

The WITNESS. You say you are not in a hurry?

Mr. BROOKS. Oh, not a bit.

The WITNESS. Well, I say you will wait till I get this untied.

Mr. BROOKS. I shall be glad to.

Q. Now, before I go into that with you, what have you allowed in your ideal scheme for railroad connections with your new plant? A. I haven't allowed any expense for any.

Q. You haven't allowed anything? A. Not any expense.

Q. Well, you haven't allowed anything for railroad connections? A. No, sir.

Q. How far is your new plant from the nearest railroad? A. I don't think it is a great ways. I haven't measured. They said there could be a track laid down there.

Q. Who said so? A. The Holyoke people.

Q. Who is that, Mr. Kirkpatrick? A. Mr. Kirkpatrick.

Q. How many feet away should you say it was from railroad connections? A. I couldn't say, I don't know.

Q. Five or six hundred? A. I couldn't tell whether one thousand or ten.

Q. Do you know how they could get railroad connections? A. I know what they told me.

Q. I am asking you what you know as the result of inspection. A. No, I don't know; I didn't go over the ground.

Q. Don't you think it would be fair to allow something for that? A. I didn't charge anything for it, or put anything in my memorandum of cost.

Q. Where on your plan are you going to locate the tracks of the railroad, any tracks of any railroad, on that plant? A. Down through here. (Indicating.)

Q. Just work your pencil down there once more; you went



with such rapidity I lost sight of it. A. Along down there. That will take the coal shed.

Q. That is highway land, isn't it? A. No, sir, that is the line of the plant. The highway land comes up pretty near the street.

Q. Tell me somewhere with reference to your plan where your highway is. A. I can't tell you how near it comes. I suppose the track will come right down close to these buildings so you can shovel coal from the car into this coal shed.

Q. All you have got for room for a railroad track for the freighting of your coal is 8 feet, isn't it? A. I couldn't tell you.

Q. Do you think if it is only 8 feet that it is sufficient? A. Sufficient to run a car down, I guess.

Q. You think 8 feet is sufficient for a railroad track, do you, and the running of the car? A. No, I should put it a little farther that way.

Q. Is it going on the highway? A. Going in that side of the highway.

Q. It is going in the highway, isn't it? A. Well, it might if it took more than 8 feet.

Q. How did you figure that the railroad could run its tracks in the highway? A. Will you allow me to tell my story?

Q. No. I asked you how you figured that the railroad tracks could be located in the highway? A. I can't answer your question.

Q. Very well. What are your foundations for your new plant? A. Stone.

Q. How much? A. I shall have to look it up.

Q. Well, look it up. A. What is the page?

Mr. GREEN. You will have to take it up building by building.

The WITNESS. The retort house is 72 feet by 60 feet, 22 feet high. That is in the clear of the building.

Q. You say the foundation is on good land? A. Yes.

Q. What was the character of the soil? A. I thought it must be pretty good.

Q. Did you make an examination of it? A. I didn't dig down to see.

Q. Would it make any difference with you if you knew there was quicksand at that point? A. Not for a foundation, sir.

Q. It wouldn't make the slightest difference? A. No.

Q. Your price for the foundation would be just the same whether the soil was good or quicksand? A. Quicksand is good to build on.

Q. It isn't any more expensive? A. No.

Q. Did you know that this immediate vicinity had been rapidly growing in population? A. No; I saw some vacant land around.

Q. I asked if you knew whether it had been growing rapidly in population? A. No, sir, I didn't.

Q. Was there anything in the newness of the houses about that would lead you to think it had been growing rapidly in population? A. I didn't notice that at all.

Q. How far would this be from the centre of supply? A. I couldn't tell you that.

Q. Did you make any estimate with reference to that? A. Not to the centre.

Q. Or allow anything for it? A. Not for the centre.

Q. Were you informed, Mr. Davis, that in the spring and at the time of floods the water sets back from the Connecticut river all over this land several feet deep? A. No, sir.

Q. If that should turn out to be true, would you still consider that it was a desirable spot for a gas plant? A. I should raise my buildings a little.

Q. Don't answer me that way. Do you still say you would consider it a desirable spot for a gas location? A. Yes, sir.

Q. And a more desirable spot than the one that now exists? A. I think so.

Q. Is there anything that now occurs to you, that there could be conditions there that would make you change your opinion as to the desirableness of the locality? A. No, sir.

Q. What is the water gas plant called that you have in your new and ideal structure? A. Put in the—

Q. You gave it a name the other day. A. The Kendall plant or the Lowe process, either one.

Q. Well, you put in the Kendall, didn't you? A. I put in either one.

Q. Didn't you testify the other day that you put the Kendall process into your new building? A. It shows so on here.

Q. Well, I am asking you about your plant. A. Well, I drew in the Kendall process there.

Q. Do you consider that a good process? A. In some way I do.

Q. Hasn't that process been dishonored by the gas profession? A. Not that I know of, sir.

Q. Do you know of instances where it has been thrown out repeatedly? A. No, sir, I do not.

Q. Do you think that is the best process? A. I didn't say that, sir.

Q. Will you answer that question? A. No, sir, I don't; not to be—

Q. What is the best process? A. I couldn't say, sir.

Q. How many better processes are there than the Kendall process? A. I don't know, sir.

Q. Are there many? A. May be. The Kendall is—

Q. I hadn't asked you— You have answered my question. Did you know that the Kendall process had been discarded in Decatur? That is one of your places. A. I didn't know it, no, sir.

Q. And Litchfield and Taylorville and Waltham, and other of your places? A. Waltham isn't thrown out that I know of.

Q. You say it is not thrown out at Waltham? A. I say it is not thrown out at Waltham.

Q. Is it in use at Waltham? A. I don't know, sir. It stands there.

Q. Don't you know that they have ceased to use it at Waltham? A. I do not, sir. I will tell you why they stopped making it.

Q. I don't ask you why nor anything about it. Where is your coal shed on this plan? A. It is there, sir. (Indicating.)

Q. Where is your engine house? A. The engine and exhaust house are there.

Q. How far distant from your coal shed? A. Oh, the length of the retort house.

Q. Well, how far distant, or about how far? I don't care whether a hundred feet or two hundred feet. Give it to me approximately. A. Well, that is 73 feet and about 9 feet and 10 feet.

Q. How much? A. About 93 feet, less than 100.

Q. Where are your boilers? A. There are the boilers right there.

Q. Where is your water gas plant that those boilers run? A. That is here.

Q. Your boilers are away over here and the water gas plant away over there? A. Yes, sir.

Q. Do you think that is a good economic arrangement? A. Well, there could be some boilers put in. That is where they are in this plan. There is no particular objection to having them over there.

Q. Do you consider this arrangement an economic arrangement? A. I do.

Q. How far distant are those boilers from the water gas plant that they are called on to operate? A. About 100 feet.

Q. Isn't it more than that? A. Not much.

Q. What is the scale of this? Just count it up for me. A. There is 72, 73, 150, 60. It would be in the neighborhood of 200.

Q. Between 200 and 300, wouldn't it? A. Well, it would be over two, I guess.

Q. Don't you think you had better change—you would want to change your ideal plant a little? A. I don't think I should, unless I put a little boiler in here.

Q. Wouldn't you want to change it in that respect, to get your boilers nearer to the mechanism they were called upon to operate? A. The boilers were put in for another purpose.

(Adjourned to Friday, November 16, 1900, at 10 A.M.)

## THIRTY-FIFTH HEARING.

BOSTON, Friday, Nov. 16, 1900.

The Commission met in the Court House at 10 A.M.

FREDERICK J. DAVIS, *resumed.*

*Cross-examination by Mr. Brooks, continued.*

Q. Mr. Davis, where is the plan of your mains for your ideal gas plant? A. I haven't any plans, not for the different streets.

Q. Have you got any plans of the mains laid? A. No, sir—for the new?

Q. For the ideal, yes, sir, for the new? A. No, sir, I have no plan.

Q. Did you ever make one? A. Was I going to?

Q. Did you ever make one? A. No, sir, I never made one.

Q. Through what streets do you have your mains run? A. I couldn't tell you.

Q. You don't know? A. I haven't laid them out.

Q. That is correct, is it—you have not laid out any system of mains to connect with your new plant? A. Only to give so many feet of pipe of each size.

Q. Have you laid out any system? A. No, sir, I have not.

Q. Well, that is the question I ask you. In your so-called new plant, your planned plant, you have open holders in steel tanks, don't you? A. Yes, sir.

Q. Do you say that open holders in steel tanks are as cheap to maintain as enclosed holders? A. Well, I couldn't say; I shouldn't want to answer that question.

Q. Haven't you had experience with both— A. I have, but—

Q. But you have not formed any opinion as to which is the cheaper? A. No, sir, I have not, not to keep in repair or—

Q. Well, isn't it a part of the knowledge of your profession—  
A. It might be.

Q. —that the open holders in the steel tanks are not as cheap to maintain as the enclosed holders? A. In some cases it might not and others it might be. There is a difference of opinion. I haven't any knowledge of the difference.

Q. Will you turn to page 54 of your schedule, that part of your schedule which deals with the cost of your new plant? A. The relief holder.

Q. The relief holder. You have, next to the last item, foundation on good land \$600. A. Yes, sir.

Q. How much foundation for that relief holder? A. Well, I estimate about 8 inches—

Q. Well, how much foundation? A. My plan will show. I can explain how I put in the foundation in that way.

Q. I am not asking how you put it in, I am asking what is the amount of foundation. A. I couldn't tell you, sir, not here.

Q. Can you tell from your plan? A. I think I can.

Q. Tell me from your plan what amount of foundation you have for this relief holder of the ideal plant. A. I can tell you or show you by the plan how I put it in.

Q. I don't care how you put it in, I want the amount. A. The amount is \$600.

Mr. GREEN. He means the amount of foundation.

The WITNESS. I understand what you mean. If you will let me explain I will tell you.

Q. I want the amount of foundation. That is a fair question. A. It will take me some time to figure that out as I have got it here.

Q. Well, I would like to have you figure that out and then give me the total. A. In the first place I run a trench—

Q. Just answer my question. A. I can't give you the exact amount in cubic feet or yards.

Q. Give it approximately in cubic yards. A. I run a wall—

Q. Give it approximately. A. I can't give it to you. I think I have figures at home, which I will give you later.

Q. Didn't you bring your figures with you this morning? A. Not close figures I didn't. I call the foundation so much from the figures which I took it from, and I don't remember exactly.

Q. I don't ask you now, I ask you approximately the amount of foundation. A. Well, it will cost about \$600 from what I figured.

Q. You cannot tell me approximately the amount of foundation? A. No, sir, I cannot, not in figures.

Q. Haven't you got your plans so that you can tell? A. I don't think I have.

Q. Do your plans show anywhere the amount of foundation necessary for any of the buildings in your new plant? A. Yes, sir, they do.

Q. What buildings do they show for? A. I think in the re-tort house, and I don't know but it may on the holders. I could tell by looking them over.

Q. Well, this is a holder that I am asking you about. A. There may be a detail plan of the holder, but I am not quite sure.

Q. Here in evidence? A. How?

Q. In evidence here?

Mr. GREEN. Among those papers there.

A. I think there may be.

Q. Well, then, why don't you—I ask you to give me the amount of foundation for your relief holder. A. I don't think I can give you the exact amount from the drawings, even if it shows here, without figuring it over. (Examining plans.) I haven't got it on the holder, sir.

Q. You can't tell from your plans approximately the foundation of this relief house? A. Nothing farther than in my estimate I called it \$600.

Q. Oh, dear, don't run back to that; I am talking about the amount of foundation. A. I can't give it to you, sir, that is all.

Q. That is all right. Can you give from your plan the amount of foundation of any of the buildings of the so-called new plant? A. I can show you the foundation on the elevation if you would like to see it. I can't give you the number of square yards.

Q. Can you give approximately, either in the number of cubic yards or cubic feet, from your plans, any of the foundations of any of the buildings? A. No, sir, I don't think I can without figuring them over again.

Q. Can you from your plans— A. No, sir.

Q. —by figuring, tell me the amount? A. I can't offhand, without figuring it over a little.

Q. Well, figure it over.

Mr. GREEN. Which building do you want?

Mr. BROOKS. Any of them now.

Q. Can you by looking at your plans and figuring tell me the foundation of the relief house now—of the relief holder? A. No, sir, I cannot; the elevation doesn't show.

Q. Can you tell me the amount of foundation of the retort house? A. I think I can of the retort house.

Q. Well, let me have that. (The witness examined the plans.) A. I have not got any detail plan for the retort house.

Q. Now, I am going to ask you one general question, and if I can get an answer, perhaps it will save me asking a good many more. From your plans, or anything introduced in this case, can you tell the amount of foundation of any of the buildings of your new plant? A. I have the purifying house; I have it right here.

Q. With the exception of the purifying house can you tell the amount of foundations of your new plant? A. I think I can on some of the other buildings. I saw some of the elevations of the other buildings. I cannot on all.

\*Q. You cannot on the retort house? A. I haven't got it on the retort house, only in so many figures which I figured and put the amount down, that is all.

Q. Now, you say you can tell by your plan of the relief holders the amount of foundation— A. I cannot; I have not got it, sir; I don't find that, I don't find the elevation showing the foundation. I can give you all those later—

Q. Well, I am asking you now, from anything that is in this case? A. No, sir, not now.

Q. Give me an answer, and then we will stop. A. I don't care to give you an estimate, a guess at it.

Q. Tell me by your plant, if you can, or anything that is in evidence in this case, the amount of foundation for your wooden coke shed in the new plant? A. I don't think I have it here.

Mr. GREEN. I have an impression that you misunderstood the witness in one thing, Mr. Brooks, that he said in regard to the purifying house, in regard to the foundation.



Q. I understood you to say that you could not tell me from your plans or anything in the case the amount of foundation for the purifying building of your new plant? A. I could figure that out from my plans to give you the amount; I have not got it in detail.

Q. Tell me the amount of foundation of the purifying building? (The witness examined the plans.)

The CHAIRMAN. That is all figured here, Mr. Davis, in your schedule, 200 perch of foundation in the purifying building.

The WITNESS. It is all figured in the schedule?

The CHAIRMAN. Yes.

The WITNESS. What page?

The CHAIRMAN. 42.

Mr. GREEN. I thought that Mr. Brooks wanted it figured out now. I certainly understood it so, and I think the witness did.

Mr. BROOKS. All right; if he wants to stick to the amount he says in the schedule I am content.

The WITNESS. If it is in the schedule there—

Mr. GREEN. I understood the desire of the question was to have the witness compute it from the plan, that is all.

Q. I ask you now, Mr. Davis, to figure the amount of foundation of this building, to which I have directed your attention, of your new plant from your plans. I am going to stick to my question, unless the Commission desires otherwise.

The CHAIRMAN. Oh, certainly.

A. 192 perch. Then there is some foundation in the—for piers in there, which would make it 200, that is, I call it 200.

Q. 192 perch, and then you get another 8 perch there some way? A. Some foundation under the columns in through the building.

Q. What is the thickness of the wall of the purifying building, as shown by your plan? Just look at it there and tell me. I mean, of course, to put in foundation walls. A. Foundation walls?

Q. What is the thickness of your foundation wall, as shown by your plan? A. I don't think it shows exactly the thickness. The depth is shown.

Q. Does it show any thickness? A. I don't think it does.

Q. How can you figure the amount of the foundation wall without knowing from your plans—unless the plans show the thickness of the wall? A. I take the thickness from the general thickness which we use.

Q. Is it not usual in the plan to show the thickness of the foundation wall? A. Not always, sir.

Q. I asked you if it was not usual? A. Not always, sir.

Q. Well, it is necessary to know the thickness of your foundation wall in order to obtain the amount of foundation, is it not? A. I think I called this—

Q. Is that so; is it so? A. Well, of course it is.

Q. Now, that is all right. Then from your plans you cannot tell— A. No, sir.

Q. —the amount of foundation for this purifying building, can you? A. No, sir, I cannot tell from the plans what I called it.

Q. Well, we will go along then. A. I make the foundation a little thicker at the bottom, and run it up less at the top. What my calculations were I cannot tell you, sir, but I made 200 perch in the whole.

Q. I see you have. You say so in your schedule. A. I say so, and I think that is correct, sir.

Q. I am not disputing with you. Just take the present question; the question was if you could figure it from your plan. I will repeat my general question: From your plans can you ascertain the amount of foundation for the various buildings of the new plant that are delineated thereon? A. My answer was that I thought I could.

Q. Well, do you think so now? A. Come to look at the plant I find that the thickness of the walls is not put on the plans.

Q. Then your answer would be that you cannot from your plans figure the amount of foundation for the various buildings? A. Not accurately. I thought I could.

Q. You cannot approximately, can you? A. No; I don't want to approximately.

Q. I don't ask you anything more.

The CHAIRMAN. When he asks you a question you must simply answer it; and that is all you can do.

Q. Now, with reference to holders, any of the holders de-

lineated on this plan for a new plant. Can you ascertain from the plan what the amount of foundations is? A. No, sir, I cannot.

Q. What is the best kind of a scrubber known to the gas world? A. I could not tell you, sir.

Q. What in your opinion is the best? A. I have put in a good one here.

Q. Well, that is a most illuminating answer.

Mr. GOULDING. I ask that it be stricken out.

Mr. COTTER. Yes, that ought to be.

The CHAIRMAN. Yes.

Mr. BROOKS. Repeat that question, if you please. (The question was read.)

The WITNESS. I could not tell you. I consider mine as good as anybody's that I have got here,—as anyone's.

Q. You have got a Tower scrubber, have you? A. Yes.

Q. Is the Standard scrubber considered the best in the profession? A. Some consider it good, perhaps not the best.

Q. Is the Standard scrubber the superior of the Tower scrubber? A. I could not tell you, sir.

Q. You don't know, with all your skill and your experience and your knowledge, with reference to gas works? You haven't formed an opinion as to which is the best mechanism? A. Not fully.

The CHAIRMAN. I suppose it would be irregular for me to ask what a scrubber is?

Mr. GREEN. Well, there are various kinds.

By Mr. GREEN.

Q. What is a scrubber, Mr. Davis? A. Well, it is a scrubber that takes off the tar and the ammonia and scrubs the gas.

Q. That tells what it does; where is it in the plant? A. I haven't one in this.

By Mr. BROOKS.

Q. You have not got a scrubber in this plant? A. I have not a Standard scrubber, the one you are talking about.

Q. What? A. I haven't a Standard scrubber; I have something in the place of it.

By the CHAIRMAN.

Q. You have a Tower scrubber? A. In the form of a Tower scrubber.

By Mr. BROOKS.

Q. You think that is as good as any other kind of a scrubber? A. That is what I put in in this plant.

Q. I will not follow it up any further. A. I don't think you had better.

Q. Will you turn to the plans of the two generating plants? A. What page?

Q. The plans. I don't know what the page is. A. What is the question?

Mr. BROOKS. (To the stenographer.) Will you read the question.

(The question read by the stenographer.)

Q. For the new plant? Have you got it? A. Yes, sir. The retort house—

Q. Where are the two generating plants shown. A. There is one here, sir (indicating).

Q. That isn't a generating plant. A. No, I know that. I thought it was. There is one and there is the other.

Q. Here is one generating plant away off there. A. Yes, sir.

Q. And here is the other generating plant, for your new plant, off here. A. That is the coal and that is the other.

Q. The two generating plants are how far separated? A. A little over 100 feet, sir.

Q. More than 100 feet? A. Yes, sir.

Q. Is that good construction, to have your generating plants so far separated? A. No objection to it, sir.

Q. Isn't it more economical to have them nearer together? A. I don't think so, sir.

Q. Is that the usual construction, to have generating plants so far apart? A. They are built all ways—some far.

Q. Is that usual construction?

Mr. GREEN. I think that is a fair answer.

The WITNESS. There are very, very few that are connected as they are at Holyoke, that I know of.

Mr. COTTER. We think he ought to answer that more spe-

cifically. The fact that they are built all ways does not say whether that is usual or not.

Q. Is that the usual method of construction, to have the generating plants so far separated? A. I think I have answered that once before.

Q. I don't think you have. If you have, will you be kind enough to do it once more. A. Some are farther and some are nearer. The circumstances and the land to build on make the difference.

Q. If you can get them nearer together it is better, isn't it? A. I don't consider it so, sir.

Q. Isn't it more economical to get your two plants adjacent and near your coke supply? A. I don't think so, sir.

Q. And doesn't it save money in labor? A. I don't think it does, sir.

Q. Not a bit? A. Not a bit.

Q. It makes no difference how far apart they are, it is just as well? A. I should want to be in reason, I shouldn't want to go half a mile.

Q. It is simply a question of degree, then, is it? A. Degree in the distance?

Q. Yes. A. Yes, sir.

Q. In the present plant the two processes, the two generators, are adjacent, aren't they? A. The old works?

Q. The present plant. A. Yes, sir, they are; they adjoin.

Q. Do you think that is disadvantageous? A. No, sir.

Q. And really, when you come right down to business, that is an advantage? A. I don't think so.

Q. You have to carry your coke further, don't you, where you have the two plants separate? A. That depends whether you use coke or coal.

Q. Either or both? A. No, sir, I don't think it would make much of any difference.

Q. Don't you have to carry the coke or coal farther than you would if the two were adjacent? A. That depends upon where the coal sheds were located.

Q. Assuming the coal sheds just where you have got yours in your plan, and the coke shed. A. You would use a different kind of coal from the coal that you make gas, and it would naturally be put in a different shed.

Q. Where is the shed that you have got for it? A. I haven't got any shed for that purpose, sir. I have but one.

Q. You have only one? A. One coal shed.

Q. With your one shed you agree at once, wouldn't you, that it would be more economical to have the two plants adjacent to each other? A. No, sir, I don't consider it so.

Q. Then you do find that you haven't got enough buildings in your new plant? A. I have plenty. We often make the coal shed for two or three different kinds of coal.

Q. Well, you say you ought to have in this new plant another shed, don't you? A. I didn't say so.

Q. I understood you to say so a few minutes ago. A. I didn't say so.

Q. What did you mean when you said you would build another shed? A. I said I hadn't got another shed built.

Q. Didn't you tell me also that another shed built there would produce the same economy? A. I don't think I said so, in so many words.

Q. Did you say that in substance, or is it a fact in substance? A. I might have spoken that another shed might be built.

Q. It would be better to have another shed, would it? A. Well, it would be a little nearer.

Q. It would save, would it? A. It might save a little wheeling with the wheelbarrow.

Q. What is the capacity of your tar wells in your new plant as planned? A. I don't know whether I have got it on the plan or not.

Q. Tell me from your plan what the capacity of your tar wells is. A. 50,625 gallons, as near as I can tell by this figure here.

Q. Can you figure the capacity from your plan? A. I can.

Q. Will you give it to me definitely? A. I will this afternoon, sir.

Q. Give it to me now. A. I cannot.

Q. How long will it take you? A. Oh, I should have to refer to some books.

Q. Now you see what I am asking you is, can you figure it from this plan? A. You can figure it from this plan. It can be figured from this plan by taking a little time.

Q. You have there the dimensions? A. Yes.

Q. And from that you can figure the capacity? A. Yes, sir.

Q. But it would take you too long to do it just now? A. Unless you want to wait.

Q. Well, I don't want to wait a great while. A. Well, it would take some little while.

Q. Well, then, approximate what, in your opinion, is the capacity of the tar wells of the new plant. A. I will give you the capacity; I don't want to approximate. I have got it figured down where I know what I am talking about.

Q. Figured from your plan? A. Figured from my plan and from the specifications giving the size, yes, sir.

Q. Very well, give us the size. A. Fifty thousand—I don't know whether it is a five or six—50,625 gallons or 50,525 gallons, or 1125 barrels.

Q. How many barrels? A. 1125.

Q. And how many gallons do you figure to a barrel? A. I think I have figured about 50; I will see.

Q. All right. A. 50 in the usual. (Figuring.) I reckoned 45 gallons instead of 50. The barrel will run from 40 to 50.

Q. You have already said that 50 gallons was the usual; you want to change that, do you? A. Yes.

Q. That it should be 45? A. I called it 45, yes, sir.

Q. That is the usual, isn't it? A. Well, 42 to 45. Some barrels hold 50, some less than 50.

Q. I only asked you what was the usual. A. I was striking a happy medium.

Q. What is the capacity of the tar wells of the present plant? A. I should have to look back to see.

Q. Look back and see. A. I may not have the capacity, possibly; I may not have that.

Q. Well, I will ask you this question: whether or not the tar wells of your new plant in capacity are about half the capacity of the present plant? A. I could not say, sir.

Q. Look and discover. A. I cannot tell you, sir. I didn't figure the number of gallons in the old tanks, I simply took the dimensions.

Q. Well, didn't you know what the number of gallons was in the old tanks? A. I didn't figure them, sir.

Q. Didn't you approximate them? A. No, sir.

Q. As a matter of judgment? A. No, sir, I did not; I didn't consider it necessary.

Q. Didn't you state in your direct examination what the capacity of the tar wells of the present plant was? A. No, sir, I don't think I was asked that question.

Q. Very well. You have but one tar well depicted on your plans, have you? A. No, sir, not on the plan.

Q. That is what I am saying. A. No.

Q. There should be two, shouldn't there? A. I have got two in my estimate.

Q. Show me your tar well plan and tell me where you are going to put the second one. A. Here is one here, near this retort house.

Q. I am talking about tar well. A. I am telling you where that is.

Q. I don't care about retort house. Is this a tar well here? A. Yes. That is what you were talking about and I was telling you where it was.

Q. That I know; where you would put the other one is what I want to know. A. I should put the other one right in there (indicating).

Q. Why didn't you do it? A. Because I didn't think of it until after the plans were all done.

Q. Will you give me now the total capacity of your tar wells for the new plant? A. 2250 barrels.

Q. What? A. 2250 barrels.

Q. Is the total? A. The total, the two tar tanks which I propose in this new plant.

Q. What is this other tar tank for? A. It is for the tar from the water gas plant.

Q. It is a tar well for the water gas plant? A. It is a tar tank or well, whichever you have a mind to call it.

Q. And what is the capacity of that particular tank which you are going to have there, which is not on your present plan? A. It is the same size as the one for the coal gas plant.

Q. Even with two tar wells in your new plant, you have not the capacity of the tar wells of the old or present plant? A. I couldn't tell you, sir; I haven't figured the capacity of the old.



Q. Have you any office building delineated upon the plans for your new plant? A. I have an office room.

Q. An office room? A. Room.

Q. Is that shown? A. Yes, sir.

Q. Just let me see that; I don't see it. A. Right there, sir. (Indicating.) Here is the office, here.

Q. Well, is this all office? A. No, sir, there is a meter room there and the street governor is in that room, and the office would come in—

Q. You have not got any plan of an office, have you? A. Not other than that, no, sir.

Q. Well, you haven't any plan of an office? A. No, sir.

Q. You have a place where you think one can be put? A. That is put for the office; I have no separate building.

Q. Could you tell me approximately whether or not the present capacity of the present gas plant in its tar wells is something more than 2,000 barrels for the coal gas plant alone? A. For the present plant?

Q. Yes. A. That is the old plant you have reference to?

Q. Yes, that is the only— A. I can't tell you. As I told you before, I didn't reckon the capacity of those tar tanks.

Q. Haven't you got the data? A. I have got the data, the size, but I didn't reckon the number of barrels.

Q. Have you a workshop delineated upon your plan for the new plant? A. No, not strictly; I don't think I have.

Q. Then we will pass along. A. I beg your pardon; I have a place that is designed for a workshop.

Q. Have you any workshop planned upon this plan? A. I haven't any building expressly for a workshop. I have a room.

Q. So far as you can, answer me yes or no. A. Yes, I have; I have.

Q. Oh, you have got it, have you? Show me the plan for your workshop upon your present plan. Show it to Mr. Turner.

A. It is under this room in the basement.

Q. Well, have you any plan for a workshop? A. Yes, sir.

Q. Have you made any plan? A. I haven't made any particular plan. That was the place that I designated for a workshop.

Q. That is, you say you can put the workshop in there somewhere? A. Yes, sir, you can put it there or put it up town, just as you like. Here is the place that I—

Q. Show me the plan for the cellar, for the basement. You say you are going to have it in the basement. A. I think I can show that on the elevation.

Q. Where is there any plan of your basement in which you are going to have any workshop? A. I have stopped that building half way down.

Q. Have you any plan for the basement? A. I have not—shown on the plan.

Q. Is there any plan of a basement? A. No, sir.

Q. For this new plant? A. No, sir.

Q. Now if you will be kind enough to answer that, we will get along. A. Well, I can show you where it would be—

Q. If you can help it, don't be reluctant to say yes or no. A. Well, I don't want to say yes or no till I am sure whether I am right or not.

Q. Where is your general storage building for the new plant delineated upon your present plan? A. General storeroom for what purpose?

Q. It don't make any difference; any purposes, all purposes, general storage building. A. You could use this basement.

Q. What? A. I designed to use this basement for a workshop or storage; it is a very large basement.

Q. You are going to use the basement that you have not planned for a workshop or storage room? A. I haven't planned it upon the plan.

Q. That is what I say; I don't care for the "because." You are going to use a basement which is not shown upon your plan for a workshop and a storage building? A. Yes, sir.

Q. Have you got any horse shed planned there? A. You don't require one for making gas.

Q. Well, I don't know about that. Isn't a horse required by the superintendent of a gas concern? A. A good many use a bicycle.

Q. Have you got any automobile arranged for this plant? A. No, sir, I have not. There is plenty of room on this lot where you can put one.

Q. Where is your water gas tar well? Oh, you have already said that was not on the plan. You are going to have your basement for a storage room or an office, and that is where you pur-

pose to store your pipe and your meters and the various paraphernalia of a gas plant? A. I beg your pardon; if you will put that question in two I will answer it. You have got two questions in one.

Q. Well, I don't see as it is, but I want to comport myself to your desires in every possible way. A. I can't answer that, sir, in that way.

Q. You are going to use the basement for a storage room for the gas pipe, for the meters and for the various other paraphernalia of a gas plant, are you? A. Yes, sir.

Q. You think that is good practice? A. I don't know why it shouldn't be. You spoke of the office before, and I didn't—

Q. Under what building is this basement or cellar that you have in mind? A. It comes in one end of the purifying building, sir.

Q. Which end? A. Well, I will show it to you if you will come up.

Q. What? A. I don't know whether it is east or west; west, I think.

Q. I didn't catch— A. I think it is the west, but I am not sure.

Q. That is not shown, of course, upon your plan? A. It comes at this end here (indicating).

Q. Well, which end would that be? A. That would be this end; I think on the west; I am not sure.

Mr. GREEN. Can't you show us that end on the general plan?

Mr. BROOKS. I can fix it, I guess, Mr. Green.

Q. So you are going to have it in the basement under the lime room? A. Yes, sir, under the lime or iron sponge room.

Q. How deep are you going to have this cellar? A. About nine feet.

Q. You haven't any plan of that? A. I can show you the elevation exactly. I can figure it out here and give it to you pretty near.

Q. Well, there is nothing on your plan, as I understand it, that shows it? A. No, sir.

Q. I am only asking what, in your opinion, would be the depth. A. No, sir, it doesn't show on the plan.

Q. You think that would be good practice, to have it under your lime room? A. I think so.

Q. Can you tell me,—have you any idea of the amount of filling that it will take to fill up this land each foot in depth? A. I couldn't tell you, sir. I don't know that it would have to be filled at all.

Q. Well, if it should have to be filled, you can't give us any approximation of the amount of the filling? A. I cannot, no, sir.

Q. You know the area of this land? A. I did have it; I haven't it in my mind.

Q. Haven't you something that will tell the story approximately? A. I have the number of feet, yes, sir.

Q. Well, then you know the area; you have been down there and you say you have made an examination of it? A. I said that I hadn't it in my mind. I have it, but I couldn't give it to you without looking.

Q. That is all right. A. Yes.

Q. You have the area? A. I have the area, yes.

Q. And you have examined this lot? A. I have, sir.

Q. And yet you cannot approximate to me—to the commission, rather—anything with reference to the amount of filling that would be required? A. No, sir, I cannot.

Q. You have already stated, as I understand it, that you would have your office also in this cellar or basement that is not shown upon the plan but which you have in mind? A. Did I say that?

Q. Well, if you asked me I should reply yes. Didn't you say it? A. Didn't I say—will you put that question again? No, I didn't.

Q. Didn't you say that you would have your office down there in the basement? A. No, sir.

Q. I thought you did say it. Now tell us where you would have the office. A. It is in the room with the meter and street governor.

Q. Yes, very well. A. I will find it if you would like to see it.

Q. I don't care anything about it. If you didn't say it was in the basement, why, it was my mistake. My understanding was, and the rest of us, that you said so. A. I didn't say so.

Q. Have you anything showing the kind of flooring that you

would have for the various buildings of the new plant? A. I don't, unless it is in my specifications. I have no plans that will show them.

Q. What kind of flooring would you have in the story above the basement of the building that you have already spoken of, and I think called the purifying building? A. That is made of concrete or brick.

Q. How much did you allow for that? A. I don't remember what I allowed for it.

Q. Have you anything that would tell the story? A. I may have in some of my memorandums.

Mr. GREEN. Does it show in this schedule?

The WITNESS. I think it may show. I am not sure.

Mr. GREEN. Well, then, look up the purifying plant and see if it isn't there.

Q. I won't take too long. A. I don't think I have that separate.

Q. I will pass along then. A. I will tell you how I propose to do that.

Q. I don't want to go any farther. A. I would say that there would be—

Q. Have I asked you anything? A. No, sir; I don't want this to go on the record, but I want you to understand what I am going to have, that is all.

Q. The main difference, for instance, in the valuation of the holders for the new and the old plant is in the matter of the sheet iron work, isn't it? A. You have reference to the holders, not the tank. That would make the difference, yes, sir.

Q. That is, you estimated the iron at 4 cents a pound? A. I might have on some of it.

Q. I am asking you now generally on these holders. You estimated iron at 4 cents a pound instead of 5 or 6? A. I did on some of it.

Q. Didn't you on all of them? A. No, sir.

Q. Substantially all of the holders? A. I don't think so. I will look and see. There are different prices on the different holders. In the new holders I called them 5 cents, in the relief holder, for one.

Q. Begin at the number 1 holder in the new works.

Mr. GREEN. Would number 1 be the relief holder? I don't know how they are numbered.

The WITNESS. It would be the relief holder, number 1. That is natural. I will see. It is called relief holder.

Q. That you figured at 5 cents? A. 5 cents.

Q. For the new plant? A. Yes, sir.

Q. And the various other holders—have you figured the iron at the same price, 5 cents, of the new plant? A. I think I did. I will look and see. Yes, sir, 5 cents.

Q. In both instances, in the old and the new holders, you figured the iron in each instance as new work? A. No, sir.

Q. You told me yesterday that the number 1 holder of the old work was just as good as new. A. Did I?

Q. You did yesterday.

Mr. GREEN. Just a moment. I think the question is faulty. It makes an assertion.

Q. Didn't you tell me yesterday that you figured the number 1 holder of the old work as good as new, and depreciated it not at all? A. I depreciated it, but I didn't—

Q. Didn't you tell me that yesterday? A. I don't think I did, sir.

Q. And didn't you say that the number 1 holder you considered at cost in your valuation? A. At what I considered it worth for the present use, not as what it would cost new.

Q. Didn't you tell me yesterday that you figured the number 1 holder of the present works as new? A. No, sir.

Q. And what it would cost new? A. No, sir.

Q. And that you made no depreciation for it whatever? Didn't you say so? A. I don't think I did.

Q. Very well. A. If you will look back on the records, you will find I did not. Would you like to know what I called the number 1 holder?

Q. I haven't asked you that. A. Not in so many words.

Q. When have you built a holder or holders of the size of the holders in your new plant? A. Oh, within four or five years I have.

Q. Where? A. I built one in Portland.

Q. When? A. I think that was four years ago.

Q. Four years ago now? A. I think so.

Q. Of the same size as the holders of your new plant for Holyoke? A. From the same plans, sir.

Q. From the same plans? A. Yes, the same dimensions; that is, the same—may be some little difference such as parts of the works, but the dimensions and capacity was the same.

Q. Did you build a holder at Portland for the price that you fixed for the holder in Holyoke? A. I couldn't tell you, sir.

Q. Have you ever built a holder as cheaply? A. Yes, sir.

Q. Wait a minute till I get through. As cheaply as the holders that you are erecting on your plan for the new works at Holyoke? A. Yes, sir.

Q. Where?

Mr. GREEN. Just a moment.

The CHAIRMAN. This is competent as bearing on the question of his valuations.

Mr. GREEN. All right; it seems as though it is rather unfair to go into the witness' business contracts. It was objected to strenuously on the other side during the trial of the case.

The CHAIRMAN. We have not reached that point where we are asking with reference to details. He asks him where. It must be he can answer that.

Mr. GREEN. I withdraw the objection.

The CHAIRMAN. A matter of detail—we will take care of you on that.

A. I think I built one in Attleboro in 1898.

Q. You think you did? A. Yes, I know I did.

Q. Of the same size and at a price as low as this? A. It was a 100,000 foot holder.

Q. I repeat the question now. Whether or not in a period of ten years you have built a holder of the capacity of these holders that you had planned for the new plant in Holyoke, of the material that you planned for those holders, as cheaply as you estimate in this case? A. I think I have said that I have, and I think I have, but I shouldn't want to swear to that without looking back to see what my price was.

Q. Can you tell any place where you have built holders within ten years, of the size of these at Holyoke, of the capacity of those at Holyoke, of the material of those at Holyoke, as cheaply as you have estimated for them at Holyoke? A. I think I did at Portland, within six or seven years.

Q. Are you so positive that you are willing to so testify? A. I wouldn't swear to it without looking at my figures.

Q. Is there any other place that you think you may have? A. I have given figures of others; not where I have built, in my mind, that exact size, no, sir.

Q. Have you ever known in a period of ten years of holders being built, of the capacity of these at Holyoke, of the material of these at Holyoke, as cheaply as you have estimated these can be built? A. There are very few holders—

Q. Be kind enough to answer that question. A. I don't know of anything exactly that size that I could swear that I know that they were built for that price. I can give you that by looking up.

Q. Didn't you in 1898 make estimates for holders, of the same material as these holders in Holyoke, at 6 cents per pound for iron? A. I don't remember, sir.

Q. Will you say that you didn't? A. I don't say I didn't. I don't remember that I did.

Q. Did you make estimates in 1898 for holders? A. I made estimates in 1898.

Q. Can you tell this Commission whether or not your estimates were 6 cents per pound? A. I couldn't tell you.

Q. Or 5 1-2 cents per pound? A. I couldn't tell you.

Q. Or 6 1-2? A. No, sir, I couldn't tell you.

Q. You couldn't tell anything about it? A. No. I would like to answer your questions, but I can't from the way you put them.

Q. You have answered my question. A. I have, yes.

Q. Is there such a mechanism in gas construction as a telemeter? A. I never built one. Will you explain what a telemeter is? There is a prepaid meter.

Q. Don't you know what a telemeter is? A. I think it is a prepaid meter, where you pay for the gas before you use it.

Q. That is what you think a telemeter is? That is your only knowledge of what a telemeter is? A. You could consider that so.

Q. You have never heard of a telemeter? A. Not in that name, no, sir.

Q. What is the instrument that tells the height in the holders called? A. I don't consider that a meter.



Q. What is the instrument called that tells the height in the holders? A. You could call it a good many different things.

Q. Then give us one of the catalogue of names which you would attach to it? A. That would be a register. Certainly it isn't a meter.

Q. You never have heard that called a telemeter? A. No, sir, I never did.

Q. Have you provided for any such mechanism in your plans for the ideal construction? A. No, sir, for I didn't think it necessary.

Q. What did you have to take their place? A. Will you allow me to explain?

Q. What did you have to take their place? Give me an answer to that and then you are going to explain. A. Where holders are at the works, not out of order, we put a board up—

Q. I am talking now about this particular plant. What have you provided in this plant that you are going to erect in Holyoke, to take the place of the meter or register which shows the height of the holder? A. We provide a plank running from the top of the tank to the top of the holder. That is numbered thousandths of feet down the whole way, and any person in the works can look at that at any moment. If my holder was a mile and a half from the works it would be well to have a tell-tale running, or a meter as you call it, a dial, to give the height in the holder.

Q. Isn't it usual to have such a mechanism in gas works? A. Not where holders are placed in the yard so near the works.

Q. You have this board arrangement? A. Yes.

Q. You think that meets the requirements? A. That meets the requirements, but I have no doubt but some have meters.

Q. I have asked you if it wasn't usual to have the meters? A. I don't think it is, not where the holders are placed near the works.

Q. Where do your retort house contents show up in your schedule for the present plant? It is page 23. Have you got it? A. I have.

Q. I see on this page, showing your valuation of the water gas plant, the bench work, that you allow for nine sections of pits.

A. You have the coal gas and the water gas mixed there.

Q. Take it right down through on page 23. It is an estimated value of the present Holyoke bench work in use. Toward the end I see you allow for nine sections of pits, \$1.50 apiece, \$450. I ask you whether or not you have allowed for pits enough in the present plant. A. Ten arches complete in two sections, iron work for nine. There are ten arches complete and the iron work for nine.

Q. You have allowed for nine pits, and there are actually ten, aren't there? You have allowed for nine sections of pits and there are actually ten. A. I have allowed for ten pits and for iron work for nine.

Q. Where does that ten pits show up on page 23 of this schedule? A. That is ten arches complete in two sections, iron work for nine sections. That is all I can say about it.

Q. Where are your ten arches complete—down at the end? A. No, at the top; estimated value of the Holyoke bench work.

Q. What has that got to do with whether or not you have got nine pits or ten at the present works? A. I don't know as pits have anything to do with it, anyway.

Q. You have got nine sections of pits. Now I ask, shouldn't there be ten sections of pits? A. I have got ten arches. Nine sections of pits—I don't see it here.

Q. Look down toward the end, almost to the last. A. I don't think that the pits in the tenth bench—I don't think the pit was made.

Q. Are you so certain about that you are willing to so testify? A. I have it so here. If I hadn't found it so I don't think I should have it so here.

Q. Would it surprise you to learn there were ten pits? A. No, not at all.

Q. Then if there were ten pits that ought to be allowed for? A. If there were ten there they were covered so that I didn't see them. They might be there. All I saw was nine.

Q. Is there such a thing known in gas plants as an ammonia concentrator? A. Oh, yes.

Q. Where have you allowed for that in the new works you are going to have for Holyoke? A. I don't think I allowed for that in that particular way.

Q. I ask you where you have allowed for it. A. I think I looked at it and called it so much.

Mr. GREEN. He is talking about the new plant.

The WITNESS. Oh, the new plant. I haven't got any concentrater.

Q. You are not going to put in an ammonia concentrater?

A. No, I haven't got one in.

Q. Don't you think it would be wise to? A. Not there, no, sir.

Q. Why not? A. I don't think you could sell the ammonia for enough to make it pay to put it in.

Q. Isn't there an ammonia concentrater in the present plant?

A. I think there was an old one.

Q. Was there one? I don't care whether old or new. A. I wouldn't say there was. I think there was one.

Q. What is the object of the ammonia concentrater? To save, isn't it? A. To strengthen the liquor, and more companies sell—have I the right to explain this?

Q. Oh, yes. A. There are more companies sell ammonia without the concentrater than with.

Q. Usually companies have an ammonia concentrater, of the size of the concern that you have planned, don't they? A. No, sir, not necessarily.

Q. I say usually. A. No, sir, not usually.

Q. How, situated as you are going to have this plant, could you find a market for your ammonia without it was concentrated? A. If you could find a market for it anyway, you could without its being concentrated.

Q. What? Away from the large centres? A. Well, cost a little more to deliver it.

Q. On the whole would you say it would be good practice to have an ammonia concentrater? A. No, sir, not for that place. I haven't provided for one.

Q. I know you have not. Wouldn't you as a matter of economy? A. I don't think I should, no, sir.

Q. What are you going to do with the ammonia water? A. Run it into the river if you don't want to sell it.

Q. Do you know of any law that permits that—that would permit your running it over somebody's else land into the river? A. I should run it into a sewer.

Q. Is there any sewer down there? A. There is one that runs through that lot.

Q. A sewer—a city sewer? A. A city sewer.

Q. Would that be likely to cause a nuisance? A. It might. If I couldn't put it in there—

Mr. BROOKS. You have answered my question.

Q. Will you turn with me to page 17 of your valuation of the old plant? A. That is No. 1 holder?

Q. No. 1 holder. A. Yes.

Q. What was the amount of your depreciation for the No. 1 holder? A. I called that four cents a pound for what I considered it worth at that time.

Mr. BROOKS. I would like an answer. (To the stenographer.) Repeat that question. I want an answer to that question.

The WITNESS. I didn't make any depreciation any farther than that, sir.

Q. Can you tell me the amount of your depreciation for the No. 1 holder? A. No, sir, I didn't consider that—

Q. Can you tell me approximately? A. No, sir, I don't know what it cost.

Q. What has cost got to do with the question of depreciation? A. Well, the cost of a new holder would—

Q. Oh, I see; that is, you don't know what a new holder would cost in 1898? A. No, I didn't say that. I said I didn't know what that holder cost.

Q. Well, what has that got to do with the question of depreciation in January—or the summer of 1898? A. I should have built that holder for five cents a pound; that would be one cent on a pound.

Q. Why, my friend, you are going to construct a holder new in 1898; you compare it with the present holder and then you depreciate it, don't you? A. Depreciate it from five cents to four.

Q. Tell me the amount of your depreciation of the holder if you can, approximately or otherwise? A. It would be one cent a pound.

Q. How much in amount? (Witness made computation.)

Q. It is \$390 in round numbers, isn't it? A. Well, never mind; I will give it to you in a minute if you will let me.

The CHAIRMAN. One cent on 39,000 pounds ought not to

be a difficult problem. Are you doing it by another formula? I can do that sum, Mr. Witness.

The WITNESS. Yes, of course; \$390.34 discount from a new holder.

Q. That is, you considered this holder as good as new—this No. 1 holder of the present plant—as good as new within \$390? A. That is what I allowed.

Q. That is what you think, isn't it? A. I don't think it was as good as that, but that is what I allowed.

Q. Well, you allowed that; that was your total depreciation? A. That is what I allowed—four cents a pound.

Q. That was the total depreciation? Answer me that. A. Well, yes.

Q. Well, that is all right. Is the same true of the No. 2 holder of the present plant? That is the next page. A. Yes, sir.

Q. On the No. 3 Bridge street holder, is there any depreciation? A. I have only depreciated that half a cent.

Q. How much was your depreciation, if anything, for the supplies and tools on hand in the present plant? A. I reckoned those at what I thought they were worth; I didn't make—

Q. Can you tell me approximately how much your depreciation amounted to? A. No, sir.

The CHAIRMAN. How much do they all amount to?

Mr. GREEN. \$1,380.35.

Q. What was your method in arriving at depreciation? A. To examine a piece of pipe or a tool and estimate what it was worth, in your case.

Q. Is that the usual method that you pursued? A. It ought to be; yes, sir, it is.

Q. Well, do you know what it was worth? A. Well, I can't tell you now exactly what—yes, I knew what it was worth by my judgment.

Q. How do you arrive at your conclusion of what a tool is worth or a holder is worth? A. By looking at it, sir.

Q. What elements did you take into consideration when you came to depreciate it? A. The condition of the holder and the time that it has been in operation, both would have something to do with it.

Q. How much figure did time cut in your depreciation? A. It cuts a good deal.

Q. In this particular case? A. I can't tell you, sir.

Q. How much of a factor did any other element of depreciation cut in any of these items? A. I designated that one cent a pound on the holder taken right through.

Q. Pay attention to my question. What were the elements of depreciation, and how much of a factor did any of those elements cut? A. The depreciation was in the time and the quality and the looks of the iron in the holder.

Q. Didn't the iron look all right in your Bridge Street holder? A. Yes, it looked very well.

Q. It looked all right, didn't it? A. Well, yes, it looked all right.

Q. Didn't the iron in every other holder look all right? A. Pretty fair, yes.

Q. Well, what was there that you can specify that was wrong about any of these holders or instrumentalities? A. From the fact that they had been in use so many years more or less.

Q. Well, I think perhaps I went over that with you some time yesterday. You don't know how long they have been in use, do you? A. I could estimate from the—

Q. How long had the Bridge Street holder been in use? A. I don't know, sir, exactly.

Q. How long had any of the holders been in use? A. I could not tell you; a large number—

Q. I don't expect you to say to the day or year. A. I suppose the No. 1 holder was built when the works were built.

Q. When was the Bridge Street holder built; when did you suppose that was built? A. I think about ten or twelve years ago, but I am not sure, sir.

Q. Well, what number of years did you allow in your depreciation of these various holders? A. The number of years that I had found out that they had been in use. I cannot tell you—

Q. What that number of years is you cannot now state? A. No, sir, I cannot.

Q. And in arriving at this depreciation of the tools was there any particular element that you took into consideration? A. No more than looking at them and estimating the value, that was all. Some tools were not worth anything that I gave something for.

Q. Returning again to your page 20, you have got two chutes, two coke chutes, that you estimate \$40. What was your depreciation upon those? I am only taking that as illustrative.

A. I cannot tell you, sir.

Q. Cannot you give me any idea? A. No, sir; I cannot.

Q. How old were those coke chutes? A. I don't know, sir.

Q. No notion? A. No, sir.

Q. How much did you estimate they would cost new? A. I don't think I estimated that cost.

Q. You don't think you estimated them? A. I looked at the tools—

Q. You say you don't think you estimated them? A. The cost.

The CHAIRMAN. The cost.

Q. Oh, I see. What should you say they would cost new in 1898? A. I could not say, sir.

Q. You could not tell anything about it? A. No, sir; I could not tell anything about it. I estimated those as I did the other things and called them what they were worth in my consideration as they stood.

Q. And you looked them all over and yet, not knowing the cost, you estimated what they were worth? A. I don't care to answer that question.

Q. What? A. I don't care to answer that question.

Q. Why not? A. You have asked it half a dozen times in different ways. If my judgment is not good to look at a chute or tool and estimate what it is worth—what I think it is worth, without knowing the cost of that tool, I think that is sufficient.

Q. That is, your opinion is as good, you think, for the value of an article, even if you don't know what that article costs new, at the time when you make your examination? A. Yes, sir.

Q. And is that the judgment that you used in the estimate that you made of this present plant? A. Not in all cases.

Q. In a good many cases? A. In a good many cases. Some of the tools were—

Q. You have answered my question. A. All right.

Q. Will you turn to page 21 of your exhibit, Mr. Davis, and tell me what kind of coal hoisting machinery you valued in the present plant? A. The kind that you have in use, about the

kind you have in use at the old works. I don't know the name of it, I don't know what it is called.

Mr. GREEN. (To the stenographer.) Will you read that answer. I didn't hear a word of it.

Mr. BROOKS. I didn't either.

(The answer was read by the stenographer.)

Q. How old was that? A. I could not tell you, sir.

Q. You cannot tell what make it was. A. No. I examined the machine—

Q. What was that worth new in '98, if you know? A. I could not tell you, sir.

Q. How much did you depreciate it? A. I cannot tell you that, sir.

Q. Did you ever put in coal handling apparatus? A. I never did, no, sir.

Q. Or have any dealing with coal hoisting apparatus? A. I have seen a good many; I have never bought any.

Q. And you never sold any? A. I never sold any.

Q. And you know not what the cost is new in '98? A. I do not, no, sir.

By Mr. GOULDING.

Q. Now, I should like to ask one question here that would cover this ground. Take that coal hoisting apparatus, for instance; had you any method which you can explain to this Commission to get at the value of that hoisting apparatus except to look at it and say, On my judgment that is worth so much money,—any other method that you can explain to the Commission? A. I think—I will not say I think—I must have got the cost of that in some way, but how I could not tell you, sir, the first cost, and then I depreciated it from that in part; I don't know exactly what it did cost.

Q. Any items in this page now open that you can take and swear that you had any method with reference to their valuation except to look at them and say that I, Mr. Davis, say they are worth so much? A. Nothing above the hoisting machinery, nothing above that, over what I had from looking at it. I think I did hear some one say about what that did cost new.



By Mr. BROOKS.

Q. Now, the purifiers on page 24 of your estimate of the present plant. A. Of the present plant?

Q. Yes, present plant. A. Yes.

Q. You estimated them to be worth in '98 \$5,500? A. Yes, sir.

Q. How much would those cost new in '98? A. I think I figured those up at \$6,800.

Q. That is your estimate of what they would cost new in '98? A. Yes, that is—I think that is what I made it when I figured those.

Q. Yes; so that you depreciated those purifiers something like \$1,300? A. \$1,300.

Q. What? A. \$1,300, yes, sir.

Q. What particular elements of depreciation did you take under consideration in your valuation of the purifiers? A. They have been in use a good many years, and they were somewhat rusty, and I didn't consider them worth as much into \$1,300 as I should be willing to put in new at that time.

Q. Doing perfect service? A. I could not tell you about that.

Q. So far as you knew they were? A. Well, yes.

Q. Now, in order to make these as good as new, what changes would you make in them? A. To make these as good as new I should make new ones.

Q. I see; to make these as good as new you would make new ones. Did you have in mind any particular changes that you would make in these purifiers? A. Not in the line that you are speaking of. I had in mind how I could increase them to a million capacity instead of—

Q. I am talking about them as they are. A. No, sir.

Q. Now, I will ask you, to bring them up as good as what you would have in the new plant, what would you do to them? A. I should build them over.

Q. Would you not enlarge them? A. They would not be the same size as the old if I—

Q. Could you not enlarge them? A. I could.

Q. And get the same capacity as in your new plant? A. I

do not wish to answer that. I could talk with you half an hour to explain that, and we have not the time to do it, I don't think.

Mr. GREEN. Go ahead, Mr. Davis; just take all the time you want to explain, but answer his questions.

Mr. BROOKS. Now, he has got one simple question to answer there; I don't think it needs any explanation.

The CHAIRMAN. As I understand it, Mr. Davis, he asks you whether you could not get the same capacity out of the old plant that you were erecting for the new one by enlarging or increasing the size?

The WITNESS. Yes, sir; I can.

Q. At what cost for these purifiers? A. I could not—I have not it in my mind exactly.

Q. You cannot approximate it? A. I cannot, I would not want to.

Q. No considerable cost? A. I have it somewhere in my papers. I don't know.

Q. Have you it here? A. It may be. I made an estimate of the extra cost I could enlarge those purifiers for.

Q. Where is that estimate? A. Where is it?

Q. Yes. A. I think it is somewhere in these papers.

Mr. GREEN. On page—

Mr. BROOKS. No, what I am getting at is another thing.

Mr. GREEN. Then I don't understand.

Q. What is your estimate for enlarging these purifiers to make them just the same capacity and just as good as the ones in your new plant? A. I don't think I could enlarge them to make them the same capacity and just as good as the new ones.

Q. Well, substantially. A. Well, I could double the capacity of these, I think, for about \$6,600.

The CHAIRMAN. Sixty-six?

Q. \$6600. A. For about \$6600. I think that was about—

Q. And you considered these worth new \$6800? A. I don't remember, the old new?

Q. Worth new in January \$6800? A. \$6800, like the present old ones on the same site.

Q. You could double the capacity of the present one for \$6600? A. For about \$6600. I give you that for—I figured that.

Q. All right. A. To make that change would require a good deal of explanation.

Q. Will you look at the same page, in your condensing room of the present plant, and tell me the amount of depreciation that you allowed for the condensing room, for the mechanisms in the condensing room? A. The condenser and washer and Standard scrubber? I could not tell. My impression is about two or three hundred dollars.

Q. Have you anything that will tell whether or not you allowed anything for depreciation? A. I have allowed something for depreciation, but I cannot tell exactly how much.

Q. Cannot you tell me what you allowed for depreciation of the Standard washer? A. That is the one I am talking about, sir.

Q. I was talking about all of them in the condensing room, and I assume that would apply to all? A. I could not tell you what the whole of that would cost.

Q. I am asking you, do you know what a Standard washer of this style would cost in 1898, new? A. I don't know exactly. I think about two or three hundred dollars more.

Q. Do you know what a round tubular condenser would cost in 1898, new? A. I did figure it.

Q. Do you know? A. I can't tell you now just what it would cost, but I did figure it and that is the way I got my discount.

Q. How much would it cost in 1898, a round tubular condenser? A. I can't tell you.

Q. A square tubular condenser—can you tell what that would cost new in 1898? A. No, sir.

Q. What drives the washer? What drives this Standard washer in the present condensing room? A. An engine.

Q. And then of course there is shafting and belting. A. I think the engine is connected—I think so. That may possibly be connected with the water wheel, I wouldn't be quite sure.

Q. It is driven by a shaft? A. Yes.

Q. And belt connections? A. Yes, sir.

Q. Where does that shafting and belt connection appear in your estimate of the condensing room mechanism? A. I have that in some—I don't think I have it on this page.

Q. Where is it? A. In some of my papers. I can find it for you.

Q. Where is it in the schedule that has been introduced in evidence? On what page? A. I shall have to look for it.

Q. Will it take you long to tell me? A. I shouldn't wonder.

Q. Then I will pass along; I waive the question. I will go along to the exhauster room. Can you tell me how much you allowed for depreciation in any of the mechanisms there? A. I cannot.

Q. What would the water wheel and conduit cost new in 1898? A. I couldn't tell you that.

Q. And any of the mechanisms in that room, what they would cost new in 1898? A. No, sir, I haven't it with me. I can furnish it later.

Q. Run along to the meter room. Can you tell me what the amount of depreciation was for the mechanisms within the meter room? A. I looked that up at the time.

Q. Can you tell me now? A. No, I haven't got it.

Q. Can you tell me what any of the mechanisms in that room cost new in 1898? If you cannot, I will pass along. A. I cannot. Shafting and pulleys, I have got it here \$75—what you were talking about a little while ago.

Q. Pipe and connections through the works. Can you tell me how much you allowed for the depreciation there? A. What page is that?

Q. The very next. A. 26?

Q. Yes, sir. A. Well, I couldn't tell exactly what that was.

Q. Can you tell me what any of the mechanisms under the head of "pipe and connections through the work" cost in 1898? A. I couldn't tell you what they cost.

Q. The water gas plant, oil or naphtha tank complete, on the same page of your estimate of the present mechanisms. Can you tell me anything with reference to depreciation there? A. No, sir, I couldn't tell you what it cost.

Q. Nor what they would cost new in 1898? A. No, sir, I couldn't tell you.

Q. I see you have got a tank there, haven't you? A. Yes, sir, a small one.

Q. 21,789 pounds of iron. A. Yes, sir.

Q. How old was that, do you know? A. I couldn't tell you.

Q. Was there any concrete in that room under the stack?  
A. You are talking about the water gas plant?

Q. Yes, sir. A. Have you got away from the tank?

Q. I ask you, was there any concrete under the stack? A. You are on the water plant now?

Q. Make it under the tank. Was there any concrete under the tank? A. I think I made that with brick, the bottom of the tank—either brick or concrete.

Q. Now about the tanks. Can you tell me what the amount of depreciation was in the tanks at the present plant? A. I couldn't tell you what the depreciation was.

Q. Can you tell me what they cost new in 1898? A. No, sir, I cannot.

Q. And is that same true of your estimate of the street mains laid, of the present plant? A. I couldn't tell you what the street mains would cost.

Q. In 1898? A. I told you yesterday what depreciation I made in them.

Q. I understand. You can't tell me what the street mains would cost new in 1898, laid. A. No.

Q. Is that true also of the meters on which you placed a valuation? A. I haven't it here, but I could tell you.

Q. I am asking you now. Is that same rule true with reference to the meters in use? A. The meters in use?

Q. Page 29. I am going right along, one page after the other. A. I estimated those what they would cost—a little per cent. off from the first cost.

Q. A little per cent.? A. A little per cent.—I couldn't say.

Q. A little per cent. is 50, isn't it? A. No, not on a meter.

Q. Just look at page 29. You say there you have allowed 50 per cent.; meters in use, 50 per cent. A. I don't see any 50 per cent. discount here. I allowed 50 per cent. discount for new; that would be from new meters.

Q. That is to say, you have allowed 50 per cent.? A. Yes, sir. Let me explain that. Do you want it explained?

Q. Go ahead. A. The meter companies gave a large discount at this time. I think they gave about 55 per cent. or some-

thing like that, and I made this a little less; or, rather, the gas company might be a little less; they are pretty near the cost of new meters.

Q. Then you would allow pretty near the cost of new meters?

A. Pretty near the cost of new meters.

Q. You made no examination of these meters? You didn't see them, did you? A. No, I didn't go to every house.

Q. Well, you didn't go to any house, did you? A. No, I didn't.

Q. What would these meters cost new in 1898? A. I haven't got the cost of the new meters.

Q. Do you know what they would cost new? A. I did know at the time I made this valuation.

Q. Can you tell me what they cost new in 1898? If you cannot, I will pass on. A. No, I can't at the moment.

Q. Can you tell me what the list price was of those meters in 1898? A. I haven't it in my mind.

Q. Can you approximate it? A. No, sir, I couldn't. I will give you anything of that kind later.

Q. Later. You have told me that— This is the third day, and you were asked with reference to various things yesterday and the day before. Why didn't you bring, if you had any data, why didn't you bring it with you this morning? A. I did. I haven't been to the works where my figures are, since. I brought you in what you asked for yesterday noon.

Q. What did I ask you for? A. Something I was going to give you yesterday noon. What was that? I don't remember.

Q. I was inquiring yesterday about depreciation, and you told me again and again that you could tell me by referring to some data at home. Why didn't you bring it in this morning? A. I haven't been to the shop where I have those data.

Q. Do you think it is in existence? A. I think I could find it, yes, sir, most of them. I couldn't find all of them.

Q. The meters, shells and service pipes of the present plant, page 29. How much depreciation did you allow there? A. I don't think I allowed much of any.

Q. How much, if any? A. I considered those worth about what I put them down here.

Q. But how much did you allow, in considering their worth, for depreciation? A. I couldn't tell you.

Q. What would they cost new in 1898? A. I couldn't tell you that now.

Q. And the gas meters not in use. How much depreciation did you allow there? A. My recollection is I didn't make any. They were new.

Q. Do you know what those would cost new in 1898? A. I think I gave the regular price, what they were worth.

Q. Can you tell me what those would cost new in 1898? A. Well, I think I did give you just what.

Q. Tell me what they cost new in 1898—these meters? A. I can't do it unless you will take my figures, which I don't think I made any discount.

Q. The cast iron pipe on hand. How much did you allow for depreciation there? A. I didn't allow any. I gave full value of those, what they would cost.

Q. At 1 1-8 cents a pound and 1 cent and 3-4 cents? A. That would be a little more than they would cost at that time.

Q. You don't mean to tell us you have allowed us anything more than it would cost new? A. I think 1 1-8 would be more on that 3 inch pipe. No, that is about fair, though.

Q. You didn't give us anything, did you? A. No, I didn't mean to.

Q. Gates and boxes on hand; we will pass that along. Street valves in use—what was your depreciation there? A. I couldn't tell you exactly.

Q. What do they cost new? A. I haven't got the cost down.

Q. Wrought iron pipe and fittings on hand. Can you tell me anything with reference to any depreciation you allowed there? A. The new I gave you, the list price new, but the old I estimated whatever there is here.

Q. How much depreciation did you allow for, or on what theory did you allow? A. Well, here is one discount from the above prices, 72, 72 less 10 below. The list price at that time was 72 discount, 10, 10, and 5 off. This was the discount that they were giving.

Q. They were giving 72 per cent. discount? A. Yes.

Q. And then 10 or 20 per cent.? A. Then 10 per cent. off of that and 10 per cent. from that and 5 per cent. from that.

Q. 72 per cent., then 10 off? A. Yes.

Q. Then another 10 off and then 5 off? A. Yes. You look that up and you will find that was the price I got at that time. I think I have the price at home, on the estimate that I got.

Q. Mr. Davis, did you build the Arlington plant or have anything to do with the building of it? A. Originally, I did.

Q. When did you build that? A. I furnished the material for that. Oh, I guess it was forty years ago or more. I can't tell exactly.

Q. Forty years ago? A. I think so.

Q. Have you had anything to do with it since? A. With the plant? The work I put in?

Q. Have you had anything to do with the plant since? A. Oh, yes, I have enlarged it.

Q. Do you know what the condition of the plant is? A. Is now? I think it is in very good condition now.

Q. And do you know whether or not they are using the pipe that was put in forty or more years ago? A. I think they are in some places.

Q. And do you know whether or not the retort house that was put in under your supervision more than forty years ago is now in use? A. It is.

Q. And is that the same of the purifying house? A. I am talking about the building, not the—

Q. I am talking about the building. A. The purifying room, I think—no, the purifying room has been enlarged.

Q. But the part is still there, isn't it? A. Oh, yes, parts are still there.

Q. Have they got the same meter in use? A. I couldn't say, sir.

Q. And have they the same purifiers in use? A. No, sir, I put in new ones.

Q. Haven't they the same purifiers? A. No, sir, I put in new ones a few years ago.

Q. Were not those additions for the additional capacity? A. Yes, sir.

Q. Well, now, I am asking you if the original purifiers are not in use there? A. No, sir, they are not.

Q. The holders, the same holders of forty years ago, are in use? A. Yes, there is one at the works that I think was put in first.



Q. This holder that you put in forty years ago, the same holder is in use, isn't it, today? A. I think it is. I have done some repairing to that. It has been repaired since then somewhat.

Q. Are the same hydraulic mains in use? A. I couldn't tell you that.

Q. The same standpipes? A. I think the same size.

Q. Well, are they the same ones? A. I couldn't tell you, sir. I haven't been there, not very much, lately. I know I built some new benches there. I don't know what changes I did make.

Q. Did you build a new shell for the holder there that was originally put in between forty and fifty years ago, about a year ago? A. A shell for the holder?

Q. I ought to have stated the place—at Marblehead. Did you build a new shell for a holder within a year at Marblehead, which holder had been in existence for fifty years? A. Let's see. I think I—yes, I think I did. It was more than a year ago.

Q. How old is the tank, should you say, that is now in use at Marblehead? A. I couldn't tell you, sir.

Q. Did you have anything to do with the original construction of it? A. No, sir, I don't think I did.

Q. Was it built somewhere about 1850? A. 50 and 40 is 90; yes, or before that, I think.

Q. Yes, or before that; very well. A. I think about that time. I didn't build that tank, but I have put in a new holder.

Q. And are not the original meters, holders, purifiers, condensers and buildings now in use in Marblehead that were erected or installed prior to 1850? A. I thought you were talking about—oh, Marblehead?

Q. Yes, I am talking about Marblehead. A. Yes.

Mr. GREEN. Does the Court think it relevant in these cases to take up special instances throughout the state?

The CHAIRMAN. I think it is collateral. At the same time, they are inquiring—you may meet it if you can. The inquiry runs to determine the age of these buildings; that is, how long one of these things will last; and no matter whether located in Marblehead or anywhere else, it is some evidence as bearing on the longevity of the property. I agree that it is collateral.

Mr. GREEN. I agree that it is going to be very complicated, that is all.

The CHAIRMAN. You shall have an opportunity to meet it.

Mr. GREEN. I am not strenuous; I should be rather glad on some accounts to go into it; only I understood it to be just as broad as it was long, and it might lead to considerable complication.

Mr. BROOKS. I cannot see how a real existing plant would be any more collateral than a plan for his reasons.

(The question was read.)

A. I couldn't tell you, but I think they are.

Q. Are not the same mains now in use that were laid 50 years ago? A. I couldn't tell you, sir, about that.

Q. The holder at Marblehead was an uncovered holder, wasn't it? A. Yes, sir.

Q. And exposed to the salt air? A. Well, yes—

Q. Wasn't it? A. They would get some salt air.

Q. And your covering was put on about a year ago?

Mr. GREEN. It strikes me that that is entirely on another—I suppose that is offered to show that it is a good thing to have a cover to a holder?

Mr. BROOKS. No, it is offered to show how long a holder will last without a cover.

The CHAIRMAN. Mr. Cotter has paid more attention to this than I have, and I agree with him that we ought not to go into the details of these other cases.

Mr. BROOKS. But, your Honor, this tends to show, does it not, that what he has already said, that mains would not last, the buildings would not last, is incorrect? We want to take an example of an exposed place that he knows about and has had to do with. Isn't it competent upon that question? That is the only ground I am offering it on.

The CHAIRMAN. Yes, I did not follow the question.

Mr. COTTER. That did not occur to me, that phase of the question.

(Recess.)

**AFTERNOON SESSION.**

---

Mr. MATTHEWS. Mr. Chairman, I have taken advantage of the consent that was given that I should be absent during this cross-examination, for the purpose of seeing if I could find some authority upon this question of the admissibility of evidence of the cost of a new plant, and I would like to call the attention of the Commissioners to one or two cases which I have discovered. It occurred to me that I had prepared a brief for another purpose, on another occasion, on the rate cases under the 14th Amendment to the United States Constitution, and it occurred to me that there might be something in those cases as to whether, on the issue of the value of the plant, which, of course, is important in determining the reasonableness of the statute rate, evidence of the cost of a new plant was admitted. I find that the question did arise in the case of Capital City Gas Light Co. v. Des Moines, 72 Fed. Rep. 829, which happened to be a gas case, although the question might as well have been presented in any other case of statutory regulation. In that case the evidence of the cost of a new plant was admitted. I find also that the case which I said existed, but was unable to cite in the course of the discussion with Mr. Goulding as to the admissibility of evidence of the cost to produce power by steam in a water power case, is a very late New Jersey case, Butler Hard Rubber Company v. Newark, 61 N. J. Law, 32. That is the case which I had in mind, a square decision on that point, and the only one with which I am familiar. In looking up the case I find that that also involved not only evidence as to the comparative cost to produce power by steam, which incidentally involved the construction of a paper plant, but that the court expressly allowed evidence of the cost of a new steam plant different from the steam plant which the company had in that case, and used for auxiliary power. So that that case is authority on both points. I have taken advan-

tage of the respite that I had in this case yesterday and today to write out a short brief on the subject which I would like to submit to the Commission, with the consent of counsel on the other side, trusting that they will find occasion to do the same; but I should like not to submit it until the close of the proceedings today, because I find that one of the pages has dropped out.

The CHAIRMAN. All right.

Mr. BROOKS. Is your brief going to be printed, Mr. Matthews?

Mr. MATTHEWS. I think it might as well be, yes, at the end of the discussion. (See page 172.)

Mr. GOULDING. We shall not furnish briefs on this subject more than once in three or four days.

FREDERICK J. DAVIS, *resumed.*

*Cross-examination by Mr. BROOKS, continued.*

Q. Mr. Davis, have you consulted the building ordinances of Holyoke? A. No, sir.

Q. To see whether or not your alleged ideal structure in all its phases conforms to the law? A. No, sir, I have not.

Q. It is a well known fact, is it not, Mr. Davis, in your profession, that the buildings of gas plants that have existed for forty or fifty years still continue to exist in vigor and in value?

A. Oh, there are companies that have been running as long as that.

Q. Well, that was hardly an answer to my question. Of course I didn't ask you how long the companies had been running.

The CHAIRMAN. It was hardly an answer to your question.

The WITNESS. Wasn't that an answer to the question?

The CHAIRMAN. No, sir, it was not.

(Question read.)

A. Well, they exist, but not in value.

Q. Do they exist in vigor and in practical productiveness?

A. Yes.

Q. Have you in mind a single instance where gas works or gas buildings built as these present gas works and gas buildings are of the Holyoke Water Power Company, have been aban-

doned by reason of depreciation due to age? A. No, sir, I haven't any in my mind.

The CHAIRMAN. I don't quite hear you.

The WITNESS. No, sir.

Q. In your opinion, Mr. Davis, there ought to be an immediate enlargement of the present plant to meet the increased demand? A. I should think there ought to be.

Q. And in your opinion, that ought to be doubled? A. Not necessarily.

Q. What do you mean by that—"not necessarily"? A. Well, you might put on half the present capacity.

Q. Well, in your opinion, there is the immediate opportunity for business that would allow the gas plant to be increased in size one half? A. No, I haven't any idea of that at all; I have no knowledge of what that should be.

Q. I understood you in your direct examination to say that you thought that substantially, at the present time, the gas plant should be doubled in capacity? A. I might have said so.

Q. Well, you might have; you did, didn't you? A. I don't remember.

Q. Is it a fact? A. I don't—I couldn't answer that. I answered it once; that ought to be sufficient.

Q. Do you say you don't know? A. I don't know; I will say this: I can't answer that direct.

Q. You said that you would put up a plant that would double the capacity of the present plant? A. Yes, sir.

Q. And I understood you to say that substantially at the present time the requirements of Holyoke, in your opinion, made that desirable? A. I don't remember of saying that.

Q. You don't remember whether you said it or not? A. I don't remember of saying that.

Q. Well, if you did say it, is it a fact? A. If I said it it might be a fact, yes.

Q. Is it a fact? A. If I said it before and I thought it was, it is a fact.

Q. Well, it is a fact, isn't it? A. Well, I shan't change my present—

Q. Now, I am asking you whether or not it is a fact? A. A what?

(Question read.)

A. Well, you are not obliged to build double unless you want to. It might be—it might be the best—best for the city to build double if you were to build, you could do it so much cheaper.

Q. My friend, you say now that substantially the present demand would warrant an increase in that plant 100 per cent? A. No, not right directly, not immediately.

Q. Well, how soon? A. I couldn't tell you, sir.

Q. About now soon? A. Well, I should say within—four or five years.

Q. You said within two, didn't you, in your direct examination? A. I might have.

Q. Well, is it a fact that the necessities within two years will warrant a double increase? A. I can't really tell what your increase will be in two years.

Q. Oh, but you have testified to this in your direct examination; now I am asking you in cross-examination— A. Yes.

Q. —to find out what you know about it. Is it your opinion— A. It is not.

Q. —that substantially the present opportunities for business there would warrant the doubling of the capacity of the gas plant? A. If you were going to rebuild—

Q. Just answer me that question. A. I am going to try to.

Q. Answer me that. A. What do you want me to say—

The CHAIRMAN. Mr. Davis, he asks you as to your opinion whether it will or not.

The WITNESS. He wants me to say yes or no.

The CHAIRMAN. You can explain that readily.

The WITNESS. I would like to explain that to him if he will let me.

Mr. BROOKS. I don't object to an explanation, but I should really like to get an answer to this that carries some intelligence.

The CHAIRMAN. He asks for your opinion, in your best judgment, if that would be required in the course of two years.

The WITNESS. It would not be required in the course of two years to double the capacity of your works.

Q. Did you say so in your direct examination? A. I don't remember that I did or did not.

Q. What is your opinion about it? A. What is what?

Q. What is your opinion about it? A. About that? I have just answered that question.

The CHAIRMAN. Well, answer again, Mr. Davis. It is easy for you to answer that question.

The WITNESS. Haven't I answered it?

The CHAIRMAN. I don't know whether you have or not. The fact is— You need not answer it again.

The WITNESS. Will he read that question and answer, please?

(The stenographer read the answer: "It would not be required in the course of two years to double the capacity of your works.")

The WITNESS. That is right.

Q. How much do you say the present necessities demand in increase? A. I don't know how much it would be, for I don't know—

Q. In your opinion, how much? A. I don't please to give my opinion—

Mr. GREEN. Go ahead and give your opinion, Mr. Davis; that is what you are here for.

Q. You have given it, my friend. Is there any difference between your giving your opinion to Mr. Green or to the city's side and our side in this case? A. Oh, no, not at all. Your increase has been, as near as I can find, the last two or three years, I think, in the neighborhood of eight per cent.—eight or ten, whichever it is; I think about eight per cent.

Q. Do you say now that the present necessities of the business require an increase in the gas plant? A. You are not really obliged to, now, but you are running up pretty near to your capacity.

(Question read.)

A. Not immediately.

Q. Well, how soon? A. Well, if the works were mine I should do some—I should increase some next year.

Q. How much next year? A. Well, if I increased at all I should put in a new holder.

Q. Well, how much?

Mr. GREEN. He is telling you now.

Q. I don't care about the details of it; give me the capacity that you would increase. A. When I made the increase, I should nearly double the present capacity.

Q. Then in your opinion the plant ought to be doubled within a year? A. No, sir, I didn't say that; I said if you increased next year it would be better—

Q. Well, you think it should be increased next year? A. It should be, yes.

Q. How much of an increase, in your opinion, has there been from 1898 to the present time? A. I couldn't say; I—

Q. About how much, in your opinion? A. Well, so far as I know, I think it is about—oh, I don't wish to answer that. I have got it in figures.

Q. Why, I know, but you have given my friends on the other side your opinion.

Mr. GREEN. Get your figures, Mr. Davis, please.

Mr. BROOKS. Let him answer.

Mr. GREEN. He said he had it in the books. I told him to get his books.

Mr. BROOKS. All right; anything he can refresh his recollection from he is entitled to use, I suppose.

Mr. GREEN. He has said once the increase was 8 per cent. a year.

Mr. BROOKS. Wait a minute, don't tell him.

The WITNESS. I think it is 8. That is what I said a minute ago, I thought it was 8.

Q. Didn't you say more than 8? A. No, sir.

Q. Well, you think it would be proper, do you, substantially, at the present time, to double the capacity of that plant? A. Not obliged to, sir.

Q. Would it be good practice to do it? A. I think it would, sir, be good practice.

Q. When a man, an individual or a syndicate is out in the market for the purchase of gas plants, what is the main element that influences him in the valuation of the plant? A. I don't know, sir.

Q. You don't know? A. No, sir.

Q. Let us see; how many years have you been in the business? A. About forty odd.

Q. You have valued for syndicates and trusts and so on? A. no, sir.

Q. For people who desired to buy? A. No, sir, not particularly.



Q. Well, generally? A. I have—

Q. Can you answer? A. I will if I know what your question is, sir.

Q. Have you valued for the would-be buyer?

Mr. GREEN. Has he valued what, the gas plant?

Mr. BROOKS. Is there any doubt? Did you think I was inquiring about the electric plants?

Q. Have you valued gas plants for the would-be buyer?

Mr. GREEN. Just a moment. The word "gas plant" in this case may mean one thing and it may mean another. We have used the term in referring to the physical features, and a gas plant may mean valuing the entire plant and business, and it may be confusing, and I think it is only fair and just to the witness that a distinction, if there is any, should be allowed him in the two. We have confused ourselves here before. Witnesses have been asked in this case an opinion based on the words in one sense, and then later on have replied to it in another sense.

The CHAIRMAN. That is all right. Mr. Davis, let me say to you that if you don't understand the question you should ask counsel what he means.

The WITNESS. I don't understand this question.

(The question was read by the stenographer.)

A. No, sir.

Q. Have you valued them for the would-be seller? A. I have valued them to give the amount of the property—the value of the property.

Q. Why can't you answer my question? A. I have.

Q. I don't think so. Now haven't you valued them for the person or corporation or syndicate that desired to buy? A. No, sir.

Q. For what seller have you valued gas plants? A. For the gas companies themselves only.

Q. When you came to value a gas plant for the gas company itself did you take into consideration the present opportunities for the business? A. No, sir.

Q. You never made any valuation except of the physical features? A. No, sir.

Q. Isn't it a well known fact in your profession, if it is a profession, or trade, that the buyer and the seller both, in the pur-

chase of any particular gas plant, look mainly at the business that is being done and the present opportunities for future business? A. I couldn't answer that question. I don't know, sir.

Q. In all your experience you don't know if that enters into it as an element? A. I have no knowledge of that, sir.

Q. What is your opinion about it? You are here as an expert. Should the present opportunities for future business and the present business and the profits derived therefrom be considered as a large factor in the purchase of a plant or a business?

A. I should say not. It is pretty hard—

Q. Then your valuation of a plant, if you were called upon by a seller who desired to sell or by a buyer who desired to buy, would be confined to the physical features of that plant, and you would not take into consideration the business that was being done thereby? A. Yes, sir.

Q. Is that the way gas businesses generally are purchased?

Mr. GREEN. Gas what?

Q. Is that the way that it is generally purchased?

Mr. GREEN. I don't understand that.

Mr. BROOKS. I ask him, is that the way they are generally purchased; he understands if you don't.

Mr. GREEN. You have talked about gas plants, and now you ask about "gas business"—

The CHAIRMAN. What is the question?

(The question, "Is that the way gas businesses generally are purchased?" was read by the stenographer.)

Mr. GREEN. Now, we haven't anything to do with the gas business, purchasing a gas business, and he has not testified to it.

Mr. GOULDING. Well, that settles it, I suppose.

The CHAIRMAN. Do you object to the question?

Mr. GREEN. Yes, sir. I submit to the Commission that this witness has not been offered here and has not attempted to testify in regard to buying a gas business; he has simply testified in regard to the value of a gas plant, and using the word in the sense that I believe that it has been used here all along, all his questioning heretofore has been in regard to the plant. Now they ask him, is that the way gas businesses are generally bought, after questioning him in regard to a gas plant. Now, we submit the business is not to be valued here.

Mr. BROOKS. May it please your Honors,—

The CHAIRMAN. Let us find out from the witness first about it. Do you know anything about it, Mr. Witness? Have you any opinion to express on this question?

The WITNESS. No, sir.

Mr. BROOKS. If I may be allowed to press my question notwithstanding the reply, he is introduced here as a sort of a "star" in the firmament of experts. He has produced a catalogue of his various—

The CHAIRMAN. You can put the question.

Mr. GREEN. Will your Honor save my exception?

The CHAIRMAN. Yes. You put it simply upon the bearing that the extent of his knowledge has in cross-examination. He is not an expert upon that.

Mr. GREEN. I appreciate that, but,—well, there is no use in saying anything more; your Honors have admitted it; let it go.

The CHAIRMAN. Now, Mr. Witness,—at least let the stenographer repeat the question for you.

(The question read by the stenographer.)

The CHAIRMAN. Now, what is your answer, Mr. Davis?

A. I could not answer that; I don't know.

Q. Mr. Davis, if you were called upon to value gas properties for either the willing buyer or the willing seller, would you take into account the business that the property was doing,—the profits that the property was producing? A. No, sir.

Q. If you were called upon by a syndicate to purchase a gas business in behalf of the syndicate, would you have any regard to the amount of business that the particular property was doing, or the profits that were reaped therefrom? A. If I was asked to do that I might consider that. In this case—

Q. You would, would you not? A. If I was asked to do that.

Q. Asked what? A. To consider the business of the company.

Q. Yes. If you were called upon to buy up a gas company, would you not look to the business that that gas company were doing and the profits that they were deriving therefrom? A. If I was asked to do that I should do it, but the gas—

Q. Why cannot you—

Mr. GREEN. Just let him finish the answer.

The WITNESS. For the gas property. I should not consider the business that they were liable to do five years from now.

Q. If I may be allowed the expression, that hardly answers my question. Supposing that a syndicate employed you to purchase the gas property at Malden or at Waltham in their behalf for the lowest sum that you could purchase it from the corporation, would you take into consideration the business that the company was doing and the profits that were being derived therefrom, and the present opportunities for future business? A. I should not consider that in the present, because you cannot tell much about the present—

Q. Then if Mr. Green came to you and said, "Here is \$500,000; I want you to go down to Waltham and purchase from the gas company their properties," you would not consider the business that they do or the future opportunities of the business, or the profits that they were making in the concern? A. No, sir.

Q. Would it not be the main feature? A. I don't think so.

Q. And would it not be the feature that you would look at first? A. No, sir.

Q. What would you consider the main feature if you were called upon to purchase from a corporation its gas business? A. I should look—have you got through?

Q. Yes. A. I should look at the amount of property they had.

Q. Then, as I understand you, if a property had been built with a capacity of five times what were the present requirements or what would be the probable future requirements, you would give for it the same price that you would for a property that had already met that five times requirement? A. I should take an inventory of their property and value it one the same as the other.

Q. That is the way you would buy it for anybody that sent you to buy a business? A. That is the way I should estimate the—

Q. Then, of course, if it was five times as large as was necessary you would give just as much? A. If the property was there I should estimate it what I thought—

Q. You would give just as much? A. I should estimate it. I am not buying for myself.

Q. Will you be kind enough to answer my question? You would give just as much? A. If it was five times as large as the required—

Q. Yes. A. I would give what the price—pay for the property that they had there.

Q. And you would give just as much for it as if the requirements were up to the capacity of the property? A. I don't quite understand your question there.

Q. Well, I will try and make it plain. A. Well, I wish you would.

Q. If you were called upon as the representative of a syndicate to buy from a gas corporation its property, the syndicate desiring to go into the gas business—see? A. Yes.

Q. —would you value that property if it was five times the present requirements at the same valuation that you would if the requirements were met with in its capacity? A. As I said before, I should make an estimate of what the property was worth that they had for sale. I should not consider their future business or their future profits, because I would know nothing about them.

Q. I haven't asked you anything about the future. I am asking you about the present. A. If they have the property there, I should advise to buy it,—I would make a price for it.

Q. Yes; and if you were called upon by a concern or a syndicate to purchase gas properties in their behalf, they desiring to go into the business, it would not make any difference to you as to what the volume of the business was? A. I am not talking about the business now.

Q. Well, will you answer that question? A. I think I answered that.

Mr. BROOKS. (To the stenographer.) Will you repeat the question, and let him answer it.

(The question, "And if you were called upon by a concern or a syndicate to purchase gas properties in their behalf, they desiring to go into the business, it would not make any difference to you as to what the volume of the business was," was read by the stenographer.)

Q. In your fixing a value? A. I should make an estimate of what property they had, and give that as a value of the works

or property that was for sale or that I wanted to buy. I should not make any calculation on their business—the profits of their business.

Q. Supposing—perhaps I am a little tiresome, but I have hardly received an answer to this—

Mr. COTTER. Let me make a suggestion. Mr. Davis, I think we would make more progress if you would give a little more attention to the question and answer that directly, if you can. If the question—

The WITNESS. I think I answered that last question as near as I can answer it.

Mr. COTTER. If the question is not understood, you will ask to have it repeated. Some time, I think, has been wasted by not comprehending the question.

The WITNESS. Yes.

Q. Mr. Davis, suppose that you had \$500,000 that you desired to invest in gas properties, and you were looking for an outlet for your investment, would you consider, in valuing, the business that the company was then doing and the profits that they were deriving therefrom? A. No, sir.

Q. No? Well, that settles it. Then it would be just the same to you—you would give just as much for a plant of one million capacity that had an output of a million, as for a plant of one million capacity that had an output of 100,000, would you, desiring to invest your own money? A. No, sir.

Q. You would not? Well, then, you would have regard, wouldn't you, for the output of the plant, the value of which you were investigating, in determining the value or the price that you would give for it? A. No, sir; I would not.

Q. Well, let it go; I will not bother with it any longer. I understood you to say the other day in direct examination that one of the peculiarly beneficial features of the site that had been selected for your ideal plant was that it was 600 feet lower than the present plant of the Holyoke Water Power Company; did I understand you correctly? A. I think I corrected—

Q. Excuse me; did I understand that correctly? A. I don't know whether you did or not.

Q. Did you have that in mind as one of the advantageous elements for the new site? A. No, sir; I called it 600 and I meant to have said six.

Q. Didn't you say that was one of the benefits of this new plant that it was 600 feet lower than the old one? A. Well, six feet would be a benefit.

Q. Well, would it be appreciable by any human expert mind? A. I—

Q. Would it? A. I recalled—

Q. Excuse me a minute; just answer my question. A. I didn't consider that 600, and I shall not answer it.

Mr. GREEN. Answer the question.

Mr. BROOKS. Read the question.

(The question, "Didn't you say that was one of the benefits of this new plant that it was 600 feet lower than the old one," was read by the stenographer.)

The WITNESS. Yes, I did say that, and then I—

Q. I understand. You have corrected that and made it six feet? A. Yes, sir.

Q. Well, then, that is only one one-hundredth of the advantage that you assumed the other day? A. I didn't assume that.

Q. Didn't you in your answer say that the fact that it was 600 feet lower than the present plant site in your mind was a very strong advantage for your selected site? A. I said that, but I recalled it.

Q. Now, if it was only six feet, it would not be appreciable, the advantage, would it? A. I should have answered the question the same way if it had been but six feet, for the reason that—

Q. How much of an advantage does six feet lower than the present plant give you? A. It gives you six feet, six feet lower.

Q. How much does it amount to? A. I cannot tell you in dollars and cents.

Q. What does it amount to in any way? A. It does amount to a little, because gas companies—gas plants are better in a low place to deliver gas than in a high point.

Q. If it had been six inches lower, would it have had the same efficacy in your mind? A. It would so far as it went.

Q. Well, can you tell this Commission how six feet gives any appreciable advantage to the site that you or somebody has selected over the present site? A. Only it makes a little difference in the pressure on the mains.

Q. How much? A. I could not tell you, sir.

Q. About how much? A. I cannot answer that; I don't know.

Q. All you say is, it makes a little difference in pressure? A. It makes a little difference.

Q. What difference does the pressure make on the pipe if there is ample pipe for the pressure? A. Gas will travel up hill, on a rise, better than down hill.

Q. Gas rises, but if you have got your pipe, your mains, ample for the pressure, does it give any advantage that it is six feet lower— A. I—

Q. Does it give any advantage if your mains on the present plant are ample? A. Yes, it does give a difference.

Q. What? A. In the height, the rise.

Q. What is the advantage? A. The advantage is, the gas will go to the consumers easier on a rise than it will on a fall.

Q. Well, does six feet honestly, Mr. Davis, six feet difference, make any appreciable advantage? A. One foot makes a difference.

Q. Well, give me some rule to go by? A. Six feet would give an advantage.

Q. How much? A. I cannot tell how much.

Q. Would it be appreciable?

Mr. GREEN. I think he has answered that question.

The CHAIRMAN. I think so.

Mr. GREEN. A dozen different times.

The CHAIRMAN. I think the Commission understand that.

Mr. BROOKS. Well, I guess that is so; I think he has answered it, as you say, a dozen different times.

Q. How much did you allow, Mr. Davis, upon the theory that it was 600 feet lower than the present site? A. I don't think I allowed anything.

Q. How much did you allow on the theory that it was six feet lower than the present site? A. I don't think I allowed anything, only my judgment that it was better.

Q. Is a going concern worth more than a concern at rest? A. Well, there are advantages in a going concern.

Q. I should think that perhaps might be so? A. Yes.

Q. And does the advantage depend upon whether it is producing and producing profitably? A. It might, yes.



Q. Well, there is no doubt of it, is there? The mere fact that it is going, if it is not going in the right way, would not be advantageous, would it? A. If it was not going the right way, it would not be worth so much, of course.

Q. Then I understand you, you have estimated this concern of the Holyoke Water Power Company as a going concern? A. As a going, yes.

Q. Yes. Now, how much have you allowed for the going? A. I have allowed that in my—

Q. How much have you allowed for the going? A. I couldn't tell you how much.

The CHAIRMAN. You don't allow him to finish.

Mr. BROOKS. He says he has allowed that in something. I asked him the amount, your Honor. Perhaps I ought not to.

The WITNESS. I haven't got the amount that I allowed.

Q. About how much do you allow for it? A. I couldn't tell you, sir.

Q. The more profitably it is going the more you would allow? A. I didn't consider the profits in any respect.

Q. Well, ordinarily wouldn't you, if you were purchasing a plant, purchasing a going concern, allow for its going profitably more than you would allow for its going unprofitably? A. Well, I say—I don't think there is any comparison in that.

Q. If you will answer my question I should be glad to have you.

(Question read.)

A. I think I should, yes, sir.

Q. And the greater the profit of the going concern the greater would be your allowance in value, wouldn't there? A. Well, I should not—it would make a difference, but I do not—

Q. Well, it would make a large difference, wouldn't it? A. I don't know that it would.

Q. It would make a difference in the ratio of the profitable-ness of the going? A. It ought to, I should think.

Q. What? A. It ought to.

Q. Yes. Will you return, Mr. Davis, please, to page 67 of your schedule that is in evidence, which is headed, "Relative value of the two plants." Have you found the page? A. Yes, sir.

Q. Now, Mr. Davis, would you consider a property, a gas property, in a growing city more or less valuable than a gas property in a dead community? A. Of course it would be worth more.

Q. Yes. You have got on page 67 of your schedule the sum of—the new plant, you say, \$255,114.81. Taking out \$75,000, leaves \$180,114.81? A. Yes, sir.

Q. Where did you get that \$75,000, and how was it made up? A. That was my judgment.

Q. What makes up that figure of \$75,000? A. My judgment that there was that difference.

Q. Can you tell any of the elements that go to make up that total of \$75,000? A. No, sir, I cannot.

Q. You cannot give us any conception of them? A. No, sir.

Q. When did you arrive at this conclusion of taking out \$75,000? A. In making my comparison.

Q. When did you arrive at it? A. Oh, I don't know; some time ago.

Q. About how long ago? A. Well, it was after I made up my figures.

Q. About how long ago? Was it a year ago or a month ago or a week ago? A. More than a month ago.

Q. More than a month ago. Well, that is as nearly as you can give us the information? A. I couldn't tell.

Q. With whom did you consult before you arrived at this conclusion of a month ago or so? A. I made this up myself.

Q. With whom did you consult before you arrived at this \$75,000 conclusion as shown on page 67? A. I don't think I consulted with anybody.

Q. With whom did you talk? A. I don't think I talked with anybody specially about it.

Q. Well, with "anybody specially"; I don't know just what that means. Who talked with you about it? A. Nobody that I know of. I don't remember that there was anything said to me about it.

Q. Why didn't you make it \$100,000 or \$150,000, or \$25,000, or \$33,000 or \$40,000? A. My judgment didn't tell me that it was any different from what I gave it.

Q. And you can't tell me any of the elements that go to make up that \$75,000? A. That was the difference in the two works.

Q. Can you tell me of any of the elements which go to make up that \$75,000? A. Well, there was the mains, the difference in the street mains.

Q. How much? A. I couldn't tell you, sir.

Q. What other element was there? A. Well, through the gas works, the—

Q. What other gas works? A. The size of the different parts of the gas works.

Q. What did the size of the different parts of the gas works have to do with it? A. Well, I had to make a difference.

Q. You had to make a difference? A. Yes, sir, I did.

Q. But how much did you allow for that? A. I couldn't tell you, sir; I couldn't tell you how much I allowed on the streets, even.

Q. I understand that. How did you arrive at this \$20,275.19? Can you give me any of the elements? A. After I had made that \$75,000 discount, I thought as the plants were running and doing business, it would be that difference.

Q. You thought that the fact they were going was worth \$20,000 to you? A. Yes, sir.

Q. Well, if they were going at a profit, a net profit, of \$34,000 per annum, wouldn't you want to roost those figures a little higher? A. I did not.

Q. Well, wouldn't you if you were a seller? A. I don't think I should.

Q. No. That is, if it was going, if the concern was going at a profit of \$34,000 net per annum, all you would allow for the business that was being done— A. I am not—

Q. Wait a minute,—or the going of the concern, would be \$20,000? A. I am not estimating the business at all.

Q. But you are estimating the going? A. The advantage between the two companies—

Q. But you have already told me that the greater the profit the greater the advantage in the going? A. I should want to know what the profit was.

Q. Assuming that the profit of the Gas Company for a mo-

ment is \$34,000 net per annum, wouldn't you want to increase your \$20,000 as the value of the going? A. No, sir. I was not increasing that—

Q. What? A. I was not valuing the business of the Company; it was the—

Q. I didn't ask you that. You told me a moment ago—and I am not going to dwell much longer on it—that the greater the production the greater was the value of the going; the greater the business the greater was the value of the going; the greater the profits, the more the value of the going. Now, if you have a profit of \$34,000 per annum net for a certain plant, wouldn't you want to increase the value of the going? A. I think I have increased that all that this would allow.

Q. How did you arrive at the—well, perhaps I have asked you that, and I guess I shall not get any different answer. Mr. Davis, if you had a plant, a going plant, that was making you a net profit of \$34,000 per annum, wouldn't you value the going element of that plant at more than \$20,000 as a seller? A. If I had that I should not value it at all; I should want to keep it and run it.

Q. Well, would you be kind enough to pay attention to my question? A. I was.

Q. I agree with you; I think you are right about that; you would want to keep it? A. Yes.

Q. And it would be valuable to keep; you would not sell it any way, would you? A. I might.

Q. If you got enough? A. That would depend upon circumstances.

Q. Certainly. The circumstances would be whether you got enough or not, wouldn't it? A. It might have something to do with it, sir.

Q. Well, it would have all to do with it, wouldn't it? A. No, sir.

Q. What else would come in to distract your attention? A. I might not want to sell it.

Q. I know you would not want to, but if you got enough you would, wouldn't you? A. Well, I—

Q. Is there anything that you have got in a business way that you would not sell if you got enough for it? A. Well, I think that is an odd question; I don't care to answer that.

Q. I will come back to my original question. If you had a plant that was bringing you in \$34,000 net per annum, would you value the going qualities of that plant at only \$20,000? A. That is all I valued it in this case, and I—

Q. Will you answer my question? I am entitled to an answer. A. I think I have answered it, sir.

Q. Do you? Now, do you honestly think that? A. I do, yes. I am not valuing the—

Q. Never you mind what you are valuing. I am assuming a situation with you. If you owned a going gas plant that was bringing you in \$34,000 net per annum profit, would you value the going qualities of that plant at only \$20,000? A. I don't know, sir, how much—

Q. What is your opinion about it? A. Well, I have no opinion about it at all.

Q. Well, you are an expert, they say? A. I am in some ways.

Q. Of astute mind and great experience. Can't you tell us? What? A. Well, this is going off from the—

Q. We will stick to what I ask. A. All I—

Q. Will you answer that question, or won't you? A. I will not.

Q. All right. I am requested to ask you this question, Mr. Davis: whether or not there is any advantage in having a gas plant upon the shore of a river where you can dump your ashes and refuse? A. Of course—

Q. Excuse me a moment; away from a point of nuisance, advantageous or disadvantageous? A. It would be an advantage, of course.

Q. Would it be considerable, or little? A. That would depend upon how much refuse stuff you had to dispose of.

Q. I have got the nuisance in this question, too, you understand. It would be a great advantage, wouldn't it? A. That would depend upon how much the situation and the amount of nuisance it might—whether you had to cart the stuff three or four miles, or dump it near by.

Mr. BROOKS. I think that is all, sir.

The WITNESS. Of course there would be a little.

*Re-direct examination by Mr. GREEN.*

Q. Mr. Davis, a few general questions, that I think perhaps have been made plain in the latter part of your testimony. As I understand your schedule, to be sure that I am right, in the valuations that you have given of the various buildings and apparatus, the labor is figured in together with the cost of the materials?

Mr. BROOKS. Wait a minute.

The WITNESS. On the new?

Mr. GREEN. No, in the old.

Mr. BROOKS. You don't mean that, do you? Some of it is and some of it isn't.

Mr. GREEN. I will strike out all of that and go back. It perhaps is leading.

Mr. BROOKS. I don't object on account of its being leading.

Q. Will you take your schedule and turn to page 2. On page 2 of your schedule, which is the retort house building of the old works, the first item is 210,000 of brick at \$10. What does that \$10 embrace? A. Embraces the brick laid in the building.

Mr. GOULDING. My friend went all over that.

The CHAIRMAN. In your recollection is there any part of that but what has already been stated? For instance, as to that, I have a decided recollection it was said that the labor was included with the brick.

Mr. GREEN. I put the general question, as far as I recall, all the way through. I want to ask the witness—

Mr. GOULDING. If it is a mere matter of my friend's recollection of the evidence why won't the evidence show when it is printed?

Mr. GREEN. I want to ask a few questions based on that.

The CHAIRMAN. You can ask that general question, whether he has included all his labor.

The WITNESS. I have included the labor in all my estimates at the old works.

Q. With the material? A. With the material.

The CHAIRMAN. It is easy enough to tell whether that is so or not. We are going to have the schedule to look at.

Q. If there is any place that occurs to you that you have not

done that, or that you notice, I wish you would call my attention to it, either now or afterward. A. I don't know any place that I have not given you the value of the property including the labor.

Q. In figuring the excavating you have included in the item of excavation, you have told us, the back-filling. By back-filling you mean simply throwing the dirt back that is dug out? A. Yes, sir.

Q. Whether or not that is the way you ordinarily figure?

Mr. BROOKS. How is that competent?

Q. Whether it is the ordinary way, to include back-filling with excavation? A. I always include it.

The CHAIRMAN. I think we had better take that.

The WITNESS. I always include the back-filling in putting in the foundation.

Mr. BROOKS. That is not the question, and I ask to have the answer stricken out.

Q. In making your figures, in estimating for excavating, whether that term with you generally includes back-filling; that is, the price of doing one includes the other? A. That is included; the back-filling would be included in the excavation and the foundation.

Q. Will you explain to this Commission fully the principle upon which you get at the foundations of these buildings?

Mr. BROOKS. Which one?

Mr. GREEN. Any and all. I am talking about the existing works.

Q. Upon what are your figures for the foundations based?

A. The foundations that I couldn't see were based on what I considered should be put into such buildings—practical foundations.

Q. Some question has been raised from place to place as we have gone along as to whether the foundation under a certain building or another—I need not pick them up building by building—whether it was stone or brick. So far as the value of the building is concerned, which is better for a foundation? A. I should prefer stone.

Q. Why? A. Because it would stand the moisture of the ground better and make a better foundation—make a stronger foundation.

Q. If you had a stone foundation there whether or not there would be any call for that flagging that has been mentioned? A. There ought not to be, if I understand—

Q. Whether there is any necessity for flagging under a stone foundation? A. If I understand the word "flagging," it is the flagging under the stone foundations, that is what you mean.

Q. I don't know as I make myself clear to you. From time to time you have been asked as to various buildings whether you figured flagging under the foundations. A. I understood they meant by flagging the stone, or large stone, under a stone foundation, or under the foundation. No, I don't consider it any advantage ordinarily.

Q. If there is a brick foundation whether or not it would be? A. No, it wouldn't make any difference.

Q. If there was a brick foundation would there be need of flagging under the bricks? A. No, sir, no more than stone.

Q. And in the iron work, take it generally throughout the buildings, so far as it is painted, when is that iron work painted, before it is put up or after it is put up? A. The roofs we always paint before they are put up.

Q. And in the price per foot, or per pound, rather, for iron in the structure, whether that is iron up and painted? A. Yes, sir.

Mr. BROOKS. I submit he has testified to this.

The CHAIRMAN. It is very difficult, in this long examination, for Mr. Green to discriminate—it is very hard.

The WITNESS. That was my proposition, or my estimate, was the material set up, complete.

Q. Whether or not the prices which you have given in your new plant for the material put in and labor, and the material complete, are in your opinion, or were, going and usual prices with you at that time, January, 1898?

Mr. BROOKS. I submit that has been gone over.

Mr. GREEN. Very well.

Q. Whether or not they were the market prices for that labor and material at that time, January, 1898?

Mr. GOULDING. We object.

The CHAIRMAN. If you forgot it in the original examination, you may put it now.

Mr. COTTER. Don't you think that was covered originally?



Mr. GREEN. I thought perhaps it was not. Some question has been raised by the comparison of prices. If my brothers are raising questions at this time that we ought to put this in in the original examination, it is something that never has been done in this hearing.

Mr. COTTER. My point was, it had been put in.

Mr. GREEN. I am not sure. I had no recollection it was.

The CHAIRMAN. Put your question, Mr. Green.

Mr. GREEN. Well, I am trying to.

The CHAIRMAN. Answer the question, Mr. Witness; whether these were marketable prices that you charged or that you put into your figures.

A. As I understand the question, my estimate for putting in that new work is put in complete, ready for use.

Q. Were the prices charged there the market prices at that time, and the going prices, at which work was being done and materials furnished at that time? A. Some might have charged more and some less. It was a price that I should have been very glad to have made a contract for, if you call that a market value. Market value so far as I am concerned. I guess others would have built it as cheap as I would.

Q. Something has been said about wall boxes here. I don't know whether they are of any importance or not. What are wall boxes? A. I don't know what they mean by those.

Q. In regard to the foundations, in the figuring of your foundations, what depth did you take of the foundations? A. 4 feet, about. That is on the old, you mean?

Q. Yes; and why did you take that depth? A. That was ordinarily below frost; in some cases may go down lower.

Q. Will you explain again to us why the trusses in one of those plants might cost—or one of the buildings at the old plant might cost more than in the other? A. In one roof the trusses are heavier than the other. The labor would be the same.

Q. That is, you have charged per pound? A. Per pound, yes; half a cent, I think, if I remember right.

Q. But the labor that enters into that wouldn't be greater in one case than in the other? A. One case would be as much as the other. That is, the lighter roof would be as much labor as in the heavier, so I had to charge half a cent a pound more—I think it was half a cent.

Q. Have you examined the company's schedule of the iron in the Bridge Street holder? A. Yes.

Q. Whether or not you have been there once or more than once to examine that? A. I have been there twice, I think; twice or three times.

Q. For what purpose? A. To see if my figures were anywhere near right, in the amount which I—I went there and took particular pains to measure the iron, the weights, and look the chains over and the columns to see I hadn't made a little mistake on my first, but I found that my first appraisal was about right.

Q. Did you make an effort to find the iron which is contained in this printed schedule? A. I tried to.

Q. Could you? A. I couldn't find the whole of it. I got all there was in sight. And some part of it I knew there must be out of sight, under ground, that it must take to complete the work. But I couldn't find anywhere near the amount that they claimed to have.

Mr. GOULDING. What schedule do you refer to?

Mr. GREEN. You furnished us a schedule.

Mr. GOULDING. Which schedule?

Mr. GREEN. The printed schedule.

Mr. GOULDING. There are several printed schedules. What one do you refer to?

Mr. GREEN. Mr. Sawin's schedule is the one that was furnished as a schedule.

Mr. COTTER. In what volume of the report?

Mr. GREEN. It is in volume I. of the evidence.

Q. If there was any more iron in that Bridge Street holder than you have figured in your valuation, if there is any more iron there than you have figured in your estimate, would the building be any more valuable, in your opinion, for its use as a gas holder? A. I don't think it would. I took the dimensions of the iron as I found it there, and measured everything, the weights and chains.

Mr. GOULDING. I don't think that the last part of the answer is responsive to the question. I object.

Mr. GREEN. I don't care about the last part of it, anyway.

The CHAIRMAN. Let the last part be stricken out.

The WITNESS. Shall I answer that in my own way?

Mr. GREEN. You have answered the question to my satisfaction.

The WITNESS. I didn't know but you might want me to tell you what I should put in to make a good job in the place of that.

Mr. GOULDING. That, I take it, is not evidence in this case. As I understand, the only part of the answer that is competent is that he don't think the building would be more valuable.

The CHAIRMAN. I understand so.

Mr. GOULDING. The rest of it ought to be stricken out.

Q. Is it necessary, Mr. Davis, in practice, to get at the sizes and weights of the iron and roofs of these buildings, for you to go up and make actual measurements? A. I don't consider it so, where it is impossible to get up. There was no way to get up on to the girders there. I had to estimate as near as I could. I went up on to the ladder there a little ways and looked over.

Q. In estimating to get at this iron, what principle did you adopt?

Mr. BROOKS. You mean the iron trusses?

Mr. GREEN. Yes.

Q. In getting at the iron trusses, the iron in the roof, what sizes did you allow for? How did you get at it? A. I think I allowed for the iron. I allowed the sizes as near as I could tell from the point that I was at, and the length of the iron I could tell from the plan.

Q. What I am trying to get at is this: Whether the sizes that you allowed were large enough for the size of the building—the weight of the roof?

Mr. BROOKS. I object to that question.

Mr. COTTER. It won't do any harm. We will admit that.

A. The sizes that I took there—if this is in order—was as near as I could get at the sizes that was there.

Q. But whether or not, irrespective of that, I want to find out, the sizes you took were, in your opinion, sufficient—sufficiently large or heavy, whatever the case may be, for the pur-

poses of the building? A. They are larger; larger there than was required for the building, but I took them there as I found them.

Q. All right. I have got it now, I guess. You took them as you found them? A. As I found them.

Q. The sizes? A. To get at the weight of what there was there. I was not constructing now —

Q. You have answered it, that is enough. A. All right.

Q. You started to tell the conditions, Mr. Davis, under which it was better to have holders off the works, and something was said about the equalization of the pressure. What other advantages or disadvantages are there?

Mr. BROOKS. Now, I submit he has gone into that in his direct examination, he has given all the disadvantages, and in cross-examination he gave one advantage. Why should we go over it again?

Q. Put it another way around — just a moment. I will take the question this way: are there any advantages or disadvantages that occur to you that you did not mention?

Mr. COTTER. That you do not object to?

Mr. BROOKS. No, sir, I cannot.

A. I think I mentioned all of the advantages and disadvantages, excepting holders away from the works are placed there oftentimes on account of giving better pressure to the distribution.

Q. Well, that you have spoken of, Mr. Davis. There was something in your testimony that led me to believe that you wished to state something further. If there is not, we will pass on. You have spoken already of the pressure and the equalization, and, on the other hand, of the additional expense in heating. A. Holders away from the works are a great deal more trouble and care than at the works. In heating —

Mr. BROOKS. You have been over that.

Q. Yes, you have told us about that. Will you tell us why you think that cement joints are better than lead, if they are better? I understood you to say you thought they were, somewhat. A. I think they are better in this way: a lead joint in the contraction of the pipe will draw the joints —

By Mr. BROOKS.

Q. Draw the what? A. Draw the joints out; draw the spigot end from the bell, which will cause a leak very often. With a cement pipe, a pipe oftentimes will break — will break back of the bell instead of drawing the joint out. If you break a pipe, you get a big leak, and you can find it right away very easily.

By Mr. GREEN.

Q. How do you find it? A. By barring down and digging down and find it; put on your sleeve and you can mend it. In a lead joint the contraction of the pipe will draw nearly every joint and make a great many small leaks.

Q. You get a great many small leaks? A. Yes.

Q. In the other case you get one big leak? A. Yes.

Q. In case you have a big leak, what becomes of the gas and how can you detect the fact that there is a leak there? A. Well, the gas goes into the ground and comes to the surface somewhere near.

Q. Can you smell it? A. Oh, yes.

Q. It makes itself known? A. Sometimes gas gets into a sewer and comes to the surface a long ways from where it leaks. As a rule, it comes to the surface very near.

Q. Well, you get a big break, and the gas comes to the surface? A. Yes.

Q. In the case of the lead joint, you say you get a number of small leaks? A. Yes.

Q. And whether or not they are hard to detect? A. Yes: they are harder to detect.

Q. I want to ask a question, now, a little out of order, but I did not understand you myself, Mr. Davis. Supposing that there is necessity of enlarging the present purifying plant of the Water Power Company, in what way can you enlarge the pans? Something was said about enlarging the purifying pans.

Mr. BROOKS. I submit this has all been gone into on both sides, may it please your Honor, this purification and enlargement, and I have not said a word about pans, either.

Mr. GREEN. I understood you to.

Mr. BROOKS. Well, I have not. My friend has gone into

it in his direct, and I have gone into it in my cross-examination. Why should it be put in again?

Mr. GREEN. It is not being put in again. It is entirely independent of anything I have asked.

The CHAIRMAN. I don't remember about it. I would like to hear what the witness says about it.

Q. Is it possible to enlarge the present pans? A. Yes, sir.

Q. Well, now, you mean the pans that are there. Can they be taken apart and made bigger in any way? A. No, sir. I should not make the pans any bigger. I should enlarge them by putting on — raise them at the top, raise them up.

Q. You mean the present ones raised up or put more on top of the ones that are there?

Mr. BROOKS. Let him tell, let him tell: don't suggest it to him.

A. Put the new top of the old. Let the present purifiers, or pans, as you call them, remain where they are.

Q. Is there any way of enlarging the pans, the pans that are there themselves? A. There is no way of enlarging the pans. The building is not big enough.

Q. If the building was big enough, could you enlarge the existing pans — not add more pans, but make the pans that are there bigger? A. I think you could if the building was large enough. I think you might do that. I don't know how they are made, but it would not be an improper way to do.

Mr. BROOKS. What is this in reply to?

The WITNESS. What?

The CHAIRMAN. Go ahead and complete your answer.

The WITNESS. My idea of enlarging the capacity of those purifiers is to build, you might say, another purifier on top of the present pan.

The CHAIRMAN. That you have already stated.

The WITNESS. And make what I should call a double purifier. Part of the gas would go up through the new part and part of it would go down, which would just about double the capacity.

Q. All I wanted to find out was whether it was possible to

enlarge in the true sense the present plant: that was all. A. Not enlarge; double their capacity.

Q. Mr. Davis, will you, before we come in again Tuesday, revert to the foundation under the relief holder — I think it was — that Mr. Brooks asked you about, and give us the figures that were inquired about to-day, and which you did not have, showing the foundation?

Mr. BROOKS. Do you mean of the present plant?

Mr. GREEN. Of his new building.

Mr. BROOKS. There wasn't any foundation under that in his plan.

Mr. GREEN. Under the relief holder there was a foundation; that you asked about.

Mr. BROOKS. Not in his plan.

Mr. GREEN. I don't know whether it shows in his plan, I want to see the figures for the foundation of his relief holder.

The CHAIRMAN. Hasn't he already put it in his schedule?

Mr. GREEN. No, he has simply put the result in dollars and cents; the figures do not appear.

The CHAIRMAN. He does in some — puts the perches.

Mr. GREEN. He does, but in this case he does not happen to. He simply puts the foundation in, and the amount, \$600; it does not appear on the plan.

Q. At the time that you made up your schedule here, showing the value of these different properties, whether or not at that time you added the new cost, that is, the cost new, of the different items of apparatus?

Mr. BROOKS. I object to it.

The CHAIRMAN. Why?

Mr. BROOKS. Because it has been all gone into.

Mr. GREEN. I think not.

The CHAIRMAN. Let the witness answer.

A. I made the valuations of the old plant before I thought of the new.

Q. Not your new plant, but I mean in getting, for instance, at the depreciation on the scrubber, did you at that time ascertain the price of a scrubber new? I am getting just at your method of depreciation for the old work. A. Yes, sir, I did.

Mr. GOULDING. I submit that is a leading question, calling for an answer suggested by the question. He certainly said this morning, in answer to me, that he could not give any method that he adopted, and negatived any method; he said it rested in his judgment. Now, for my friend to undertake to help him to a method by suggesting to him whether he did not know something at the time, as, for instance, the cost of the material, is not any legitimate re-examination. I submit that it is merely an attempt to suggest some process of reasoning when the witness has indicated he had no process whatever. It is extremely leading.

Mr. GREEN. It is leading, so far as that is concerned. It was brought on from the fact that the witness was confusing the two words, "new," "new plant," with what I was trying to find out as to whether he had the new values.

The CHAIRMAN. I think that style of examination is irregular, but in this case he may answer the question. I think it is too suggestive on your part. You have a notion in your mind that you want to give the witness.

Mr. GREEN. Not at all. I think I understand exactly what was done. If it is leading, I apologize to the Court.

The CHAIRMAN. You may answer the question.

A. I should naturally get at the price of the cost of a new one, but I have not the figures here to-day of a new one.

Q. I know you did not have the figures here to-day; but, when you did make up these figures, how did you then do it at the time you made it up?

Mr. GOULDING. I submit that that is a leading question.

The CHAIRMAN. "How did you then do it at the time you made it up?"

Mr. GOULDING. It is an attempt to help this witness to a process of reasoning when he said he hadn't any: that is all there is to it. Can't you help the witness to some process of reasoning in reference to it?

Mr. BROOKS. Besides that, he answered the question and said he probably must have had them.

The CHAIRMAN. You ask him now, Mr. Green, as I understand, how he makes it up.



Mr. GREEN. I would like to have that question read. It has been criticised as a leading question, and I would like to see if the criticism is just.

(The question was read.)

Mr. GOULDING. Has he a right to begin again and have this witness go over his processes?

The CHAIRMAN. Why, no; but, after a long examination of an expert, I should always give counsel an opportunity to have things cleared up if he desired. You can answer that.

A. I probably got the cost of a new one by figuring it up myself, it being in my own line of business.

Mr. GOULDING. I object, and ask to have the answer stricken out.

The CHAIRMAN. In what way?

Mr. GOULDING. The probabilities of what he did.

The CHAIRMAN. I don't know why it should be struck out, because the answer simply — Mr. Stenographer, you can strike that out.

Mr. GOULDING. My associate thinks it better stay.

Mr. BROOKS. I would like it.

The CHAIRMAN. Then you want to leave it to me?

Mr. BROOKS. No, I think perhaps we will both agree it better stay.

The CHAIRMAN. Very well.

Mr. GOULDING. I want to give the witness notice right here that we want every figure which he has got which he used in his process of getting at these values, here at the next adjournment; and we do not want him to refer to any figures that he has got anywhere and does not bring here. We want to give him full notice. We want them here, all of them.

Mr. BROOKS. We did two days ago.

Mr. GOULDING. We have done it.

The WITNESS. Questions that have been asked me —

Mr. GOULDING. I am not talking to you, Mr. Witness.

The WITNESS. Beg your pardon.

Mr. GREEN. Just a moment, Mr. Davis: I will see to this. I think it is a good time to have a clearing up. Let Mr. Randolph, who has sat here to-day, whose figures we demanded at

the beginning, who made his estimate in just the same way — except that he gave a building entire, and when asked about the details said, "The figures on which I based my estimate are in New York and I cannot give them here, and I cannot give one single reason why I struck this valuation." We demanded them and asked for them. Let them bring Mr. Randolph's figures; and if Mr. Davis's figures are anywhere on the face of the earth and can be found, or if they can be refigured, we will give them everything they would have. I think the demand is entirely fair one way and the other. As far as I am concerned, if Mr. Davis has these figures, it has been my intention, if they can be found between now and Tuesday morning, to have them here for my brothers, and I shall be perfectly happy to do so. I think it is entirely proper that we did it. But I think it should apply equally to Mr. Randolph, and that, if New York is not too far away, he should bring his figures also.

Mr. GOULDING. If you will indicate any figures that you want Mr. Randolph to bring, if it is proper, he will bring them. All we ask are figures that this gentleman made himself in connection with his appraisal. I do not mean any of his private contracts that he had forty years ago or ten years ago or anything of the sort, but the figures that he made, if he made any, in getting at these values.

Mr. GREEN. Just as far as we have them and they can be found, they will be produced. I think it is entirely fair to ask for them. I think it is entirely proper that you should have them; and they will be produced if we can find them — if they are anywhere where they can be found. And, on the other hand, I should like to ask Mr. Randolph for the figures which go to make up a schedule which has been given in the total, and which we asked to have submitted in detail.

Mr. GOULDING. You made no such demand. You made a demand for the whole of Mr. Randolph's papers, and we discussed that question, and the discussion will be found in the book. Now, if you demand any papers that he used in making this estimate, that he made himself and used in connection with his estimate, you can have them, I suppose.

Mr. GREEN. That is all I ask for. All I want is the papers that I understood I was calling for, and my associate here says I am right according to his recollection; that is, the papers that were the basis of the figures which he rendered us.

Mr. BROOKS. What papers?

Mr. GREEN. Whatever the papers were, whatever the figures were that entered into his table which was offered in this case. We do not want the record of his business life. It is no doubt honorable and entirely satisfactory. We are not after that. We are after the documents which are the basis, and the figures and estimates which are the basis, of his valuation.

Mr. MATTHEWS. You will find in volume I., page 401, that we asked Mr. Randolph to produce the data he used, and he declined.

Mr. GOULDING. No such thing was asked. That whole question was gone over, and they bring up this cuttle-fish operation to escape the effect of our request that this gentleman shall next Tuesday produce the figures he used in making up his estimates of value. We discussed the whole question before and my friends abandoned it, and I hope they won't try it again.

Mr. MATTHEWS. On the contrary, there is a motion still standing to strike Mr. Randolph's figures out.

Mr. GREEN. There is no cuttle-fish operation here. They will get these, anyway. But what we say is, we think, in the natural order of things, that the very gentleman who is here, and who has assisted in conducting the cross-examination in this case, can produce the papers that we have called for. He is here now in Massachusetts, the case is not closed, and it is a part of this case. It seems to me we are entitled to them.

Mr. COTTER. You ask for them now—for the figures?

Mr. GREEN. Yes, we call for them.

Mr. GOULDING. Nobody knows what you call for.

Mr. GREEN. I call for all the estimates and data he used, and upon which he says his total result is founded.

Mr. GOULDING. If you mean all the documents called for on page 401 of volume I., then we notify you that we shall

not produce them, on the ground that it is a call for something you are not entitled to,—if that is what you mean.

Mr. BROOKS. We threshed this all out some time ago.

The CHAIRMAN. Gentlemen, it is now four o'clock, and perhaps we had better adjourn.

(Adjourned to Tuesday, Nov. 20, 1900, at 10 A.M.)

## THIRTY-SIXTH HEARING.

BOSTON, Tuesday, Nov. 20, 1900.

The Commission met in the Court House at 10 A.M.

FREDERICK J. DAVIS, *resumed.*

*Re-direct examination by Mr. GREEN, continued.*

Q. Will you tell us, Mr. Davis, the method you adopted in getting at the value of that Tower scrubber? A. I first estimated the cost —

Mr. GOULDING. Is this something that was omitted in the original examination? I do not see how it is rebuttal.

Mr. GREEN. It is in explanation of his method, in reply to questions which were put in the direct examination.

The CHAIRMAN. I did not hear the question. (Question read.)

Mr. GREEN. I am not sure that I made the matter clear in the direct examination. It has certainly been brought up in the cross-examination, and I would like to have the witness have an opportunity to explain.

The CHAIRMAN. Very well.

Mr. BROOKS. This, of course, Mr. Green, is with reference to the so-called new plant.

Mr. GREEN. No, I did not mean the Tower scrubber: you are right, Mr. Brooks. I meant the scrubber in the old plant — in getting at the value of the old plant, whatever the thing is.

The WITNESS. I estimated its cost, being new, and then made the discounts.

The CHAIRMAN. That is what we understood he has done right straight through.

Mr. GREEN. Yes.

Q. Mr. Davis, have you made a search for the details, the

figures, that you made in getting at the result in your original schedule? A. I have, and they have been destroyed. They were made on small pieces of paper, and have been destroyed. I cannot find them.

Q. Whether or not since our last session you have prepared a schedule showing the cost new of the buildings and apparatus of the old plant in January, 1898? A. I have.

Q. And showing the amount of depreciation allowed in your method? A. Yes, sir.

Q. Is this one of the schedules? (Handing paper to witness.)

Mr. BROOKS. What is the object of this?

The CHAIRMAN. That is what he has already done.

Mr. BROOKS. When that is offered, we shall object to it, may it please your Honors.

Mr. GREEN. That has not been done in this form. I would like to show it to your Honors.

Q. Is this the schedule you have before you? A. It is.

Mr. GREEN. Now I desire to offer that.

Mr. BROOKS. We shall object.

The CHAIRMAN. He did this before.

Mr. GREEN. I think not, if your Honors please. If you will examine the schedule, you will find that it was not done in that form. He estimates what the buildings in his first schedule are worth, as he goes along. Now the question is brought out, just what is the depreciation in each instance. This shows the depreciation in each instance and in concrete form, and is an answer to a great many questions that have been put in.

Mr. COTTER. The depreciation of the existing plant?

Mr. GREEN. Yes, sir. It shows what he considers the parts worth new as he went along—the buildings and apparatus.

The CHAIRMAN. You object to this?

Mr. BROOKS. Most certainly, may it please your Honor.

The CHAIRMAN. On what ground?

Mr. BROOKS. He has introduced in evidence here a certain schedule. He said he made that schedule up himself, that he made it from figures that he made at the time, which he says

have now passed away. Here is an entirely new schedule, made up probably on the Lord's Day,—which would be no special objection to it that I know of. He has destroyed, he said, all the figures from which he made his valuation.

The CHAIRMAN. That goes to the weight of the evidence.

Mr. BROOKS. Of course, if your Honor says so, it is so; but it seemed to us it went to the admissibility of it.

Mr. GOULDING. It doesn't appear when this was made.

Mr. GREEN. I have asked that.

The CHAIRMAN. When was this made?

Mr. GREEN. He has stated.

The WITNESS. Just made.

By the CHAIRMAN.

Q. Since the hearing? A. Yes, sir.

Q. What was it made from? A. Well, by taking the cost of the new and then deducting the depreciation which I have made at the time.

Q. What data did you have to go on to make up this? A. 1898.

Q. No: the retort house you put at \$5,300, as an illustration. Now that has what depreciation? A. I didn't make any depreciation in that.

Q. I understand. But here is one where you did. Now how did you arrive at the value of the new and the value of the old? What data, what figures, did you have? A. I took those figures as being made up new. That is, I had lost my old memorandums which I had made up in the first place, and I made them up anew.

By Mr. COTTER.

Q. In the other schedule, Mr. Davis, you took the depreciation into consideration? A. Of course, yes. I made the depreciation as I went along in making up the other—estimating.

Mr. BROOKS. Will you let me see, Mr. Witness, those books that you used? You had two of them. Will you let me take them a moment?

The WITNESS. Yes, sir. (Producing books.)

The CHAIRMAN. Do you desire to be heard upon this, Mr. Green?

Mr. GREEN. I do not know that there is anything further that I can say, except that I think it is clearly within the discretion of this Commission to allow this, as showing, the best the witness can put it, the actual amount that the depreciation which he allowed as he went along comes to.

The CHAIRMAN. You have other experts you are going to call on valuations, I take it?

Mr. GREEN. Yes.

The CHAIRMAN. It strikes Brother Cotter and myself that we should not admit it.

Mr. COTTER. We understand he testified on the subject of depreciation.

The CHAIRMAN. I thought at first, and so did Mr. Cotter, that it might go in; but it seems to me under all the circumstances, after this cross-examination, to come in here with this new statement—that your valuation of the plant had better proceed, so far as this is concerned, from some other expert.

Mr. GREEN. The valuation of this plant?

The CHAIRMAN. I mean, not your original valuation, but this paper.

Mr. GREEN. It seemed to me that the matter stood about in this way, and I wanted to offer it to the Commission. I had assumed that the witness would be able to state some of the amounts of depreciation as he went along; that is, he valued it as he went, but still that the totals he could give. It seems his figures were made up so long ago that the details were lost and he could only state results. Now, if this had been prepared before he took the stand, of course it would have been perfectly competent in connection with his other testimony. Coming at this time, it seems to me that it is competent within the discretion of this Commission; a mere matter of the time of offering it being entirely within your discretion; showing the total amount and the individual amounts so far as each item is concerned, that his depreciation amounts to, as he considers it at the present time, making his figures anew of 1898.



The CHAIRMAN. If this was offered originally, we should allow it; but now, after he has been cross-examined at length with reference to these things, testifying practically to the whole of it, and you have ample experts on such questions as this, we think, in the exercise of our discretion, that we had better exclude it.

Mr. GREEN. Well, I have assumed that your Honors have discretionary power in the matter. Now I would like to offer it temporarily, so that whatever rights I might have may be saved. I presume very likely it is at your discretion entirely.

The CHAIRMAN. If it was offered originally, I should favor its admission; but under the peculiar condition of the examination of the witness it seems to me it is fair to the Company not to allow this to be done. You do not suffer any special hardship from it.

Mr. GREEN. I don't suppose I suffer any hardship beyond the fact that it is excluded.

The CHAIRMAN. I know; but you can easily supply it from other sources if you desire to.

Mr. GREEN. I presume so; but supplying it from other sources may not possibly fulfil the mission which I had intended from that. However, we admit the figures are lost, and it is made up the best he could since the hearing; and we desire to offer it to our brothers, so, if there is anything they wanted, we would give them the best we could, since we did not give them the thing they asked for. As long as we didn't supply that, we have given the best substitute we could.

The CHAIRMAN. That is undoubtedly so; but they do not desire it, apparently.

Mr. GREEN. That is so, but I desire it to go on record that we have offered it. We couldn't give what was asked for.

By Mr. GREEN.

Q. Are these the plans for the work that you designed? (Handing plans to witness). A. Yes, sir.

Q. Mr. Davis, you have stated that you designed to put a work-room and other things under some part of the purifying plant, and in connection with that you said you had stopped the floor or foundations or something half-way down — I forget just

what it was. What have you done there, and what does that mean? A. The purifying floor is built up from the ground level about ten feet, and this room that I proposed to have, the workshop or storeroom, under one end of this building.

Q. Well, by stopping the floor where you do, it gives a basement how high? A. About ten feet.

Q. Admitting for a moment that it would be advisable, or supposing for a moment that it would be advisable, to have a separate building for the storeroom and work-room, is there a place there where it could be put? A. Yes, sir, plenty of room right opposite to this other room which we spoke of.

Q. Will you show the Commission where it could be put, and what arrangement could be made for that purpose? A. There is room for a storeroom and workshop —

Mr. GOULDING. If you will speak a little louder, so that we can hear down here.

The CHAIRMAN. Yes, speak a little louder, Mr. Davis. He is pointing out now the room for the workshop.

The WITNESS. Which is about ten feet high. We make that cellar there by carrying the room over that on a level with the purifying-room, this room overhead that is used for revivifying iron or mixing the lime, whichever they use; it gives a room about 35 feet by 36 or 38 square, which makes a very large room, 10 feet high, built on a level with the ground outside, — of the surface.

By Mr. GOULDING.

Q. That is, the end of the purifying house, you mean? A. One end of the purifying house, yes, sir.

By Mr. GREEN.

Q. Mr. Davis, my question is, supposing that it were better to have a separate building for those purposes, where would you put it, and what changes could be made — A. Right in there (indicating).

Q. You would put it in there? What is this building that is there, that is for the condensers? A. Yes, sir.

Q. Where would you put those? A. Let them remain where they are; there is plenty of room in there, inside of that building.

Mr. TURNER. Put it between the condensing room and the purifying-room?

The WITNESS. Yes, sir.

Q. Now, supposing that it was necessary or advisable to get a larger building, whether it is practicable to move forward the condensing-room, the tar wells, and put it back of that, or in the place where that is? A. We could move the condensing and exhauster room this way (indicating on plan).

The CHAIRMAN. You say "this way." We don't remember these plans you know, five minutes after, so that if you will kindly indicate which way you mean.

The WITNESS. That way (indicating).

The CHAIRMAN. "That way" will not indicate anything on the record.

Mr. COTTER. We mean, Mr. Davis, for you to describe it in some way.

Q. Move it towards Hancock Street? A. This way.

Q. That is, towards Hancock Street? A. Yes, sir; and then you would have plenty of room to put in a workshop, something for a shop, and leave this room (indicating) for the storage.

Q. If it is desirable to put in a separate building, as last suggested, how much addition, in your opinion, would that make to the cost of this plant? A. You could build a building there for from six to ten hundred dollars which would answer the purpose.

Q. Is there any disadvantage, in your opinion, in having the boilers where they are at present?

Mr. BROOKS. Now, I submit he has testified to that.

Mr. GREEN. Well, I will put a direct question, if I may, which will avoid that. I wanted to avoid that.

Mr. COTTER. Put the other question, Mr. Green.

Q. How would you treat your arrangement, your system of boilers, so as to avoid loss of steam in transmission?

Mr. COTTER. You don't object to that?

Mr. BROOKS. My attention was distracted at the moment. I presume not.

Mr. COTTER. Let the stenographer read the question.

(The question was read.)

A. You could put the boilers over near the —

Mr. BROOKS. I don't quite see, may it please your Honors, how this is open. There has been no such thing brought out, as I know of.

Mr. COTTER. We are inclined to admit that, Mr. Brooks. It may not be very material, but on the whole we think we ought to receive it.

Mr. BROOKS. I will withdraw my objection.

Q. Take them right where they are, Mr. Davis, and as you have got them on that plan. A. They could be moved over near —

Q. No; take them as they are now, not moving them; take them as they are there, what would you do in order to avoid loss of steam in transmission? A. I should blanket the steam pipe running from the boilers to the water plant. The loss of steam would be very little.

Q. In your opinion, if they were rearranged as has been suggested at some former time in the testimony, would it add anything to the cost of the plant?

Mr. BROOKS. That I object to. I say he has gone into that; he has already answered that question.

Mr. GREEN. He has not answered the question in the line whether it would add anything to the cost of the plant. In other words, we have the plant laid out here in a certain way; and there is a suggestion whether the boilers might not be better put in this place or the other place. The question is, supposing that a rearrangement is made, does it add anything to the cost of the plant?

Mr. COTTER. We think you may put that.

Mr. GREEN. Sir?

Mr. COTTER. We will admit it.

A. It would not add any cost to the cost of the plant, — make a little difference in the running of the boilers.

Q. I mean in the cost of erecting the plant? A. No, sir, not any at all.

Q. Well, that is all I want to use this plan for there. Mr. Davis, you stated in your testimony Friday that you had drawn into your plans a certain system in the water gas plant. What

is the system you have drawn in? A. I have drawn in the Kendall process, so called.

Q. Will you kindly find in your specifications the provision for a process for the water gas plant? (The witness examined the specifications.)

Q. Do you find it? A. No, I don't see it here.

By the CHAIRMAN.

Q. Can't you find it, Mr. Davis? A. Well, I haven't, as yet.

Mr. GREEN. Let me take it, Mr. Davis. Perhaps I will find it. I thought you could find it quicker than I could. (Examining specifications.)

By Mr. GREEN.

Q. Whether it would cost any more to put into this plant a Lowe process or a Kendall process? A. It would be no difference in the cost to put in either.

Mr. BROOKS. I didn't get the answer.

The WITNESS. There will be no difference in the expense between the Kendall and the Lowe; put in either that might be preferred.

Q. In getting at the results stated in the schedule which you have offered here, in the foundations of your new plant, will you tell us what dimensions you computed the foundations?

Mr. BROOKS. I object to that. He testified to that the other day to Mr. Green in re-direct,—“four feet.”

Mr. GREEN. No, that was in regard to the old works. I have not asked him in regard to the new.

Mr. BROOKS. Well, then, all right, if you have not. I withdraw my objection.

A. I estimate the foundation about 4 feet deep and to average 3 feet; larger at the bottom and runs up narrower at the top.

Q. Three feet in width—thickness? A. In width, yes, sir.

Q. You were asked about the Marblehead holder on which you did some work some time ago. What was it you did about it? A. I took out the old holder and put in a new one.

Mr. GREEN. That is all I care to ask.

*Re-cross examination by Mr. BROOKS.*

Q. Mr. Davis, this plan for your new structure is made upon land south of Berkshire street, isn't it? A. I think so.

Mr. GREEN. I think Mr. Kirkpatrick better tell you where it is.

The WITNESS. Hancock is one side.

Mr. BROOKS. There is no question but what it is.

Q. You have got your land south of Berkshire street, haven't you? A. I don't know the points of compass there.

Q. You know where Springfield is, right down the road, and that is to the south—south of your lot. And Berkshire street—will you turn to it? Turn to your plan.

A. That is Berkshire street. (Indicating.)

Q. Yes. You have got your plan located on land that the City of Holyoke does not own at all, haven't you? A. I don't think I have.

Q. You haven't made a mistake, you don't think? A. I have been on the lots.

Q. You say that the land you have got your plant on is the land that was pointed out to you as belonging to the City of Holyoke, do you? A. The land that I went onto and examined; yes, sir.

Q. Was that the land that was pointed out to you as being owned by the city of Holyoke? A. I think so.

Q. Now show me—where is Berkshire street upon this plan—here? Berkshire street here? A. Yes, sir.

Q. Where is the railroad? A. A railroad comes down by here, sir.

Q. You are pretty positive about that, are you? A. That is what I estimated and calculated—it would come down there. I laid out my buildings so that the railroad would come to bring in coal.

Q. Well, I didn't ask you about that. Do you know whether the railroad runs at right angles to Berkshire street, or not, or substantially at right angles to Berkshire street? A. I am inclined to think it crosses the street. I

don't know exactly where it comes from. I made no estimate of the cost of —

Q. I don't ask you about that. You think it crosses Berkshire street, do you? A. I think it crosses a street there from some point,

Q. Do you think it crosses Berkshire street? A. I couldn't tell you, sir.

Q. How does it run with reference to Berkshire street? How does that railroad run?

Mr. GREEN. I submit this is an entirely new line of cross-examination. It is not on anything I have asked.

Mr. BROOKS. I submit that my friend has brought it out because he is locating some new buildings around here. I am going to show that you cannot do it.

A. It comes down on Race street on this side.

Mr. BROOKS. Just a moment, Mr. Davis.

The CHAIRMAN. Up to this point, certainly you can —

Q. That is, you think it runs at right angles to Berkshire street, does it? A. It runs down here—no, not Berkshire, but Race street.

Q. I am talking about Berkshire Street. How does that railroad run with reference to Berkshire Street, do you know?

A. I will show you how it runs if you will look here.

Q. All right, show me. Where does the railroad run with reference to Berkshire Street? A. It runs down here, I should judge, or across it down here. I didn't go to the railroad at all or notice where it was coming.

Q. How large a sewer is built over this land?

Mr. GREEN. Just a moment. I object to this.

Mr. BROOKS. I would like to know what the ground of the objection is.

Mr. GREEN. I submit it is an entirely new line of cross-examination, and is not brought out in any question which I have asked in re-direct examination.

The CHAIRMAN. Well, he says he is going to show that some buildings, that he has said can be located, cannot be. That is all I know about it. It does not appear, so far, that this examination is pertinent, but it may.

Mr. GREEN. Well, if the idea is that we could not move that condensing room, as suggested, and put a workshop there — if that is the purpose of it, it might be pertinent.

The CHAIRMAN. That is it, in effect.

Mr. GREEN. I assume that my brother does not mean that.

The CHAIRMAN. What does he mean?

Mr. BROOKS. I purpose to show, if I am allowed, may it please your Honor, that there is a sewer built down through this land; so not only could the buildings not be built that he has upon his plan, but the buildings that he says he is going to put on his plan could not be put there.

The CHAIRMAN. Any modification of his plan that Mr. Green has called his attention to in re-direct examination you may inquire of; but beyond that, if he objects, I should say not.

Mr. BROOKS. I agree to that. I have not sought to put it in on the ground that I have forgotten anything.

The CHAIRMAN. No, I understand. You are offering this testimony with a view of showing that this change now suggested cannot be effected.

Mr. BROOKS. Yes, sir.

The CHAIRMAN. Go on, on that theory, then.

Q. Where does the sewer run down across this land, do you know? A. I saw the plan of it once. It runs down across like that, some way. It does not run straight across.

Q. It runs across diagonally, across this plot of land? A. Yes, sir.

Q. How large a sewer is that, do you know? A. How large?

Q. Yes; oh, yes. A. I didn't understand what you said. If you will turn around and talk to me, I will talk with you.

Q. I thought I made myself — A. Well, you commence to talk and walk out towards the door; I can't hear what you say.

Q. All right, I will ask you again. How large is the sewer? A. I couldn't tell you, sir.

Q. How deeply laid below the surface of the road? A. I examined it at the time and thought it was sufficiently deep to build our buildings over it without any trouble.



Q. How deeply laid below the surface of the earth? A. I haven't it in my mind now.

Q. Have you any approximation of it, sir? A. I have not, sir.

Q. You have allowed, Mr. Davis, for the price of land in your schedule—you have assumed the land of the old plant to be worth fifteen cents a foot; that is true, isn't it? A. I have not made any price on the old land, only—

Q. Well, excuse me a moment; see if I can make myself clear. In your valuation of the old plant, which comes to the sum of \$213,000 in round numbers, you have allowed for the land at 15 cents per square foot? A. Yes, sir.

Q. That is what I thought. Now in the books which you show us— A. It will show that different.

Q. In your books from which you say you take your valuations you have the land at 35 cents per square foot, haven't you?

Mr. GREEN. Just a moment, Mr. Davis; I object.

The CHAIRMAN. Mr. Brooks, upon what ground do you put this?

Mr. BROOKS. Upon this ground, may it please your Honor, that we have for the first time had an opportunity to examine these books.

The CHAIRMAN. You can answer that.

Mr. BROOKS. Yes, sir, and we find certain matters that I desire to recall his attention to in view of the testimony that he has, I say, given here this morning.

The CHAIRMAN. Very well, you can put the question. If Mr. Green wants to inquire into it, he can.

(Question read.)

A. Yes, sir. Let me show you where I have taken it off—

Q. I am only— A. I put it on there that I have straightened it somewhere else.

Q. That 35 cents was for the plant next to the river—near the river? A. Yes, sir; that was a price that I got, that it was about 35 cents.

Q. For your Bridge Street land you put in the price at 40 cents, didn't you, in your book? A. Yes, I guess it is figured there.

Q. Isn't that so? You look and see. (The witness examined the book.) The Bridge Street holder? A. I don't see that I have put the land in there —

Q. Just look at it and see if you have not put it in at 40 cents in your estimate in your book from which you say you took your schedule. Look at page 5. A. Yes, I have.

Q. Yes. A. But after—in making my valuations, I have taken that and called it all 15 cents.

Q. Wait; I just want to get out a few facts here. Mr. Davis, were all the red figures that I see upon these two books in these books on Friday last? A. No, sir.

Q. What have been added? A. I have made some changes in that, sir.

Q. You have made changes in that, have you? What changes? A. I couldn't tell you.

Q. How many changes, a good many or a few? A. I couldn't tell you that, sir.

Q. What? A. I couldn't tell you that.

Q. Well, couldn't you tell me whether a good many or a few? A. I can't tell you, sir.

Q. You couldn't tell me whether there were a good many or a few? I don't ask for the specific number. A. I couldn't tell you.

Q. At whose suggestion did you make the changes? A. By whose? My own.

Q. Anybody with you? A. No, sir.

Q. Haven't you talked it over with somebody with reference to the previous red ink-marks in this book? A. No, sir.

Q. When did you make the changes? A. I made the changes when I made that book up last.

Q. When did you make the changes in these red figures from Friday? A. I made some of them Saturday and some of them Sunday — possible.

Q. Well, possible — don't you know? All these foot-notes that are in this book, where you have "New" and "Old," and the figures carried out, were there Friday, weren't they? A. Not all of them, sir.

Q. What ones were not there of the "New" and the "Old"? A. They have been changed somewhat.

Q. I am talking about the red ink foot-marks. A. That is all new; that wasn't in at all.

Q. I am talking about where it says "New" and "Old" and gives the value. A. That might have been there.

Q. Well, wasn't it there? A. I couldn't swear that it was, but I think it was.

Q. Why, weren't those made by you? A. By me? No, sir.

Q. Well, weren't they made there originally? A. Well, they were made before yesterday.

Q. Yes, before yesterday, but have they been changed at all? A. I don't think those particular red figures have been changed.

Mr. GREEN. That is on page 6.

Q. Now I am asking you for the new and the old valuations that you have in red ink, upon the various pages— A. They are all in my schedule.

Q. Well, wait a minute. Have they been changed since Friday? A. No, sir, that has not been changed.

Q. Well, look the book through; see if there are any others that have been changed. A. This has been.

Q. You say that one on page 16 has been changed? A. I think it has by the looks of it; yes, sir.

Q. Well, "think it has"—don't you know? A. It looks as if that had been rubbed out and new figures made.

Q. When were they made? A. Either Friday, Saturday, Sunday or Monday.

Q. You can't tell me now, from your recollection, when those changes were made? A. I have been at work on this for two or three days, off and on.

Q. What changes did you make on page 16 of the "New" and the "Old"? A. I don't know what the original figures were.

Q. What caused the change? A. I couldn't find my original figures and I had to make them up anew.

Mr. GREEN. I would like to suggest to the Court—I have been debarred from going into what the amount of depreciation is. Now my brother Brooks is examining him on that very point in those books.

Mr. BROOKS. I am not examining him about depreciation at all; I am asking him about certain changes.

The CHAIRMAN. Let me be sure that I understand this. I understood the witness to say that those books were practically a copy of this schedule. The schedule was put in evidence; then those books were put in evidence later.

Mr. GREEN. Yes. Now Mr. Brooks asks him whether he has not made some changes since Friday.

The CHAIRMAN. Yes.

Mr. GREEN. Now it does not make any difference what those changes related to, whether new or old or anything else.

The WITNESS. They were not put in evidence—

Mr. BROOKS. Hold on.

The CHAIRMAN. It was after his examination had been completed. If he has opened the door to you to put that in, we will allow it. And also, if anything occurs here that you cannot readily re-examine him upon at this time, you can let the witness subside and he can come again. But we hope you can finish the witness this morning at one sitting.

Mr. GREEN. I hope so, too.

Mr. COTTER. To make our position perfectly clear, I will say that we are influenced somewhat by the consideration that Mr. Brooks has said he has had no opportunity to examine these books.

Mr. GREEN. That, I think, is hardly fair to say, because they were never asked for until Friday night. Mr. Randolph took them and looked them over. Mr. Randolph wanted to take them away with him, and I have learned from Mr. Davis that he did not desire to part with them permanently over Sunday. But that they have had no opportunity to examine them is not owing to any fact that we have kept them from him.

Mr. COTTER. No, we do not find any fault that they were kept away; they were called for on Friday and were turned over. It was also said that the schedule he put in evidence is copied from those books.

Mr. GREEN. That is true.

Mr. COTTER. We think it fair to allow the books to be compared with the original schedule.

Mr. GREEN. Yes. But I want to state—it seems as though we might shorten this—to state what the witness has done.

The CHAIRMAN. I don't suppose you can.

Mr. BROOKS. It does not seem that he needs much information on it.

Mr. GREEN. I thought it would shorten it, that is all.

The CHAIRMAN. I will not say that, Mr. Green. Go ahead and state it.

Mr. BROOKS. Now, may it please your Honor—

The CHAIRMAN. I think Mr. Green has the right, as counsel, to address the Commission when he states that he believes that by so doing he can shorten the examination.

Mr. GREEN. It will appear that this witness, without advising with counsel or without seeing any one since the last examination, so far as I know, not being able to get at his original notes, went to work and did what your Honors have found he has done—got up this new schedule to show what the depreciation was. In some instances he had some red ink-marks in his books which showed depreciation, but not altogether. Now he has gone to work and put the contents of these schedules in red ink, on the book, adding wherever it was necessary and in substance getting this entire schedule on his book since the last hearing.

The CHAIRMAN. Well, he went to work and took a piece of evidence that was already before the Commission and has changed it. He ought not to have done that.

Mr. GREEN. I appreciate the fact that he ought not to have done that; but the witness did not understand, and we hope you will take that into consideration, and counsel did not know that it was done. He had the papers, they were his books that he was working on, and he did not for a moment consider but that it was perfectly proper; so that when my brother goes into them he goes into the question of this schedule:

Mr. COTTER. Nobody thinks or imputes that counsel had to do with that change, Mr. Green.

Mr. GREEN. No; sir, and I say for the witness, it is not fair for the witness—

The CHAIRMAN. What do you say he has done — added that schedule to this book?

Mr. GREEN. Yes, where he did not have the depreciation put in in red ink he has added to it, so as to get this entire schedule on the book.

Mr. COTTER. Do you agree that it is reasonable for counsel on the other side to cross-examine as to the circumstances which led to that?

Mr. GREEN. Yes, sir; but I thought it would make the matter a little clearer if we understood —

Mr. GOULDING. It seems to us that we have a right to get the facts about these alterations, in the first place, without any intimations or instructions or suggestions from counsel; then after we have got the fact, I can see the propriety of counsel making any suggestions he sees fit.

Mr. BROOKS. You see there were certain red ink-marks for prices in his books on Friday. Those prices have been changed, we say, in a good many instances.

The CHAIRMAN. You can examine, Mr. Brooks —

Mr. BROOKS. That is my purpose.

The WITNESS. I did not — will you allow me to say one word?

The CHAIRMAN. If you desire to explain anything that has been brought out.

The WITNESS. I do not and did not consider that I had given any figures on the difference between the new and the old. The question was asked me, and I told you that I had not the difference figured down for evidence. I had some figures there for convenience of myself, to get up the difference between new and old at the time that I figured it up.

The CHAIRMAN. You had better answer the questions, Mr. Davis, now.

The WITNESS. And if it was going in evidence I wanted to make some little changes which would amount to about the same results.

By Mr. BROOKS.

Q. You wanted to make some changes to bring the same result? A. No; about the same result, I said.

Q. Oh. Well, I want to repeat my question. Look through that book and where it says "New" and "Old," with figures carried out, in what, if anything, do the changes consist? A. I couldn't tell you what they consist in.

Q. Well, where there is "New" and "Old" in this book in red ink, with the figures carried out opposite the "New" and the "Old," on what pages have there been any changes? Confining it now to the "New" and the "Old?" A. Of the old works?

Q. New and old.

Mr. GREEN. The red-ink figures, you mean, don't you?

Mr. BROOKS. Yes.

A. There is one, I should think.

Mr. GREEN. What page?

Mr. BROOKS. There is one change made on page 6.

Mr. GREEN. Is that gas or electricity? There are two books, you know.

Mr. BROOKS. This is gas. All of it is gas in this book.

Q. Now the new and the old on page 16; were those changed, too? A. I think they were changed a little, but not —

Q. Well, were they changed? A. It looks as though the old red and the new red had been —

Mr. COTTER. A little louder, Mr. Davis.

The WITNESS. It looks as though the old red had been crossed out, rubbed out, and new figures put in there.

Q. Yes, and — A. I didn't consider that this was in evidence —

Q. Wait a moment; I didn't ask you what you considered. Now you will be kind enough to answer my question? A. Yes, sir.

Q. That change on page 16 was made since Friday? A. What little change there is there.

Q. Was the change made since Friday? A. Yes, sir.

Q. Well, then, just say yes or no when you can. Now go on. Has page 17 been changed where it says "New" and "Old" in red lettering and in red figures? A. I should say the new had been rubbed out and new figures put in.

Q. Was that change since Friday? A. All changes that I have made were since Friday.

Q. All changes that you have made were since Friday, Mr. Davis, you say? A. Yes, sir.

Q. Now look on page 18. Has the new and the old been changed there? A. It has been changed a little.

Q. I didn't ask you how much; I asked you if it had been changed. A. It looks to me now there as though it had been changed.

Q. Yes. Follow along. Page 20—page 19, rather,—has there been any change made in the new and the old in red ink? A. I should say not.

Q. On page 20 has there? A. I should say not.

Q. Just let me look at that a moment. Page 21? A. I should say not.

Q. Well, turn to the next pages where there are changes in the figures of the new and the old in red ink. A. A good many of these figures were not in at all Friday.

Q. I am asking you now for the changes that have been made since Friday in the figures of the new and the old.

Mr. GOULDING. And you do not want the cases of new figures.

Mr. BROOKS. What is that?

Mr. GOULDING. And you do not want now the cases of new figures?

Mr. BROOKS. No, sir.

A. That one, I should think, had been changed.

Q. On page 27?

Mr. GOULDING. Page 27?

Mr. BROOKS. Yes.

A. Page 28, I should think.

Q. Page 28 also. Page 30? A. That looks as though it had been rubbed out.

Q. It has been changed, hasn't it, since Friday? A. I think it has a little. That was for a purpose—for street work,—that has been added.

Q. I do not ask you what has been added. I ask you what changes you made. I am careful to avoid what has been added. A. I am trying to tell you, sir.

Q. Did you make any changes in the new and old since



Friday on page 30? A. That has been rubbed out and new figures put in for a purpose.

Q. On page 30? A. Page 30.

Q. Is there any change on page 31? A. I should think there had been a little, yes.

Q. On page 35 was there a change also? A. I think not, sir.

Q. Very well. Keep right on turning until you come to the conclusion, if you please. A. That is all.

Q. Mr. Davis, when did you first discover that all your memoranda had disappeared? A. I tried to find them Saturday at the works, and I thought I might have some at my house; but I couldn't find any that would give me any information that I wanted.

Q. When did you last see them, or any of them? A. Why, I haven't seen them for two years, not since I first made up my valuations.

Q. And you never have looked at them since, have you? A. I don't think I have; no, sir.

Q. Where it says "new" and "old" in red ink, with the figures carried opposite in your book, does that mean the price new and the valuation? A. The difference between the new and the old?

Q. No. A. Will you show me the book, sir?

Q. Oh, yes. Where these red foot-notes are made, "new" and "old," with figures opposite each, what is the significance of those? A. What do you mean by figures opposite each there—one under the other?

Q. Yes, the figures opposite each word, "new" and "old." A. Oh, one gives the price of new, what I could put in new for, and the old is the valuation I put upon the old.

Q. And you say that your schedule is a copy of this book, so far as the gas plant is concerned? A. I think so; yes, sir.

Q. I want to ask if on page 22 the figures for the new and the old have not been changed since Friday?

Mr. GREEN. That is still the gas works?

Mr. BROOKS. Oh, yes, this is all gas—this book.

Q. You will see right there, Mr. Davis. (Indicating). A.

Well, it looks as though it had. I think it may have been ; yes, sir.

Q. The various other red figures that I see in this book, of which you say your gas valuation schedule is a copy, have been inserted since Friday? A. Not all of them.

Q. Well, you know I am excluding now the new and the old? A. Yes, I understand what you mean.

Q. I ask you whether or not the various other red figures that are contained in that book have been inserted since Friday? A. What changes I have made have been made since Friday ; yes, sir.

The CHAIRMAN. Well, he asks you about the red — whether all those red figures or words have been changed since Friday.

The WITNESS. I beg your pardon, sir.

Q. I ask you now again whether or not you have inserted the various other red figures since Friday, in that book? A. In place of those that I rubbed out ; yes, sir.

Q. Well, I didn't mean to confine it to that. Whether or not the various red figures in your book indicating prices, for instance, have been inserted since Friday?

Mr. COTTER. That may be answered yes or no, Mr Davis.

A. Yes, sir.

Q. Mr. Davis, you had various prices in this book on Friday which you have changed since then? A. I may have changed some few.

Q. Well, haven't you changed a good many? A. I don't think a great many — some.

Q. Can you approximate about how many? A. I cannot, sir.

Q. Well, take on page 3. Have you made any changes in the prices that you had there in that book on Friday? A. I don't think I have.

Q. Look at that. (Showing book to the witness.) A. On that page I called the brick 12 instead of 11,—

Q. I ask you whether you changed it on page 3 ; I don't ask what the change was. A. No, sir.

Q. Haven't you? A. That might have been there before Friday.

Q. Was it there before Friday? A. I think it was, sir.

Q. This \$12 that is in red ink,—that was there before Friday? A. Yes, sir, for my own convenience.

Q. I don't care for whose convenience. Has not that been erased,—is there not an erasure there, and was not the "12" put in since? A. No, sir.

Q. On page 16, for instance; I turn to that. Has there a change been made there and an erasure? Look at it. In the price? A. I think it is, sir.

Q. Also on page 17; has there been any change in the price figures since Friday? A. I understand what you mean. I should think that one there had been changed a little. (Indicating.)

Mr. GOULDING. What is the page?

Mr. BROOKS. 17.

Q. Page 19?

Mr. GOULDING. He said he did not change it before.

Mr. BROOKS. That is a new one.

A. I cannot tell.

Q. Haven't there been erasures and changes made there on page 19? A. There might have been.

Q. There might have been? Haven't there? This was only since Friday. A. I don't think that those—I don't think they were put in since Friday on that page.

Q. Just look at it; just look at it here, and see if it has not been. A. Yes.

Q. Does it not look as if there had been? A. That 280 looks as though it had been.

Q. Well, there are various other places, I think, but I will not go into them. Now, do you mean to say that you made these changes without a suggestion from anybody or without consultation with anybody? A. Yes, sir.

Q. Or without talk from anybody? A. I was asked Friday to give the difference between the new and the old.

Q. By whom? A. By this Court.

Q. Didn't you at the close of the session Friday afternoon have an intimation that it would be well for you to change some of your figures? A. I might have been advised that, but there was no help—

Q. Might have been — weren't you? A. No, sir, not to change my figures; they didn't know what my figures were before.

Q. You say you might have been advised that; what did you mean when you said that? A. I was asked to make up a new set of figures in the court here, to make the difference.

Q. I ask you now, when you say you may have been advised that after the close of the session Friday, what did you mean? A. I meant I might have been advised — I think I was — that I had got to make figures to show the difference between the new and the old.

Q. You already had that in your book? A. Not in evidence.

Q. Didn't you have that in your book? A. Not in evidence, sir.

Q. Didn't you have it in your book? A. Part of it, sir.

Q. Was not every instance of the difference you have now between the old and the new in your book then? A. No, sir.

Q. And didn't you change it after Friday? A. I changed some parts of it, but the book — the red ink was not —

Q. Who advised you to do that? A. The book was not put in evidence Friday.

Q. Who advised you to do that?

Mr. GREEN. To do what, Mr. Brooks?

Mr. BROOKS. To make the changes.

A. Nobody advised me to make any changes.

Q. Who advised you to bring in here any figures with reference to the old and the new? A. Mr. Brooks, Friday night, wanted to know the difference between the new and the old.

Q. Mr. Brooks? A. Yes, sir; I think so. I think you asked me a question, and I could not answer it.

Q. All right. Was that the only suggestion that came to you? A. Friday?

Q. Or Saturday? A. Well, I was asked to make up a difference in my schedule showing the difference between the old and the new.

Q. Now, did your counsel, or the counsel for the City, suggest that? A. They told me what I had better do.

Q. Now, that is all right enough. What I am getting at is, do you mean to say that the counsel for the City, neither of them ever saw this book from which your schedule was drawn ?

A. They never had seen that book. I made a schedule for them to see without those red figures. These red figures were my—

Q. You didn't put in the red figures, many of them, or some of them, until after Friday; haven't they seen the book with such red figures as there were in it before Friday? A. I don't think they have, especially.

Q. Had they generally? A. I don't think they have.

Q. Do you mean to say that this book had never been in the hands of Mr. Green or Mr. Matthews? A. It might have been.

Q. You know it had been? A. No, I don't know it has been.

Q. You cannot recall? A. No, sir; I cannot say that I know that they have been—

Q. When you talked this case over with them haven't you had this book present? A. I hadn't figured up the cost—

Q. Just confine yourself to my question. A. I will if I can.

Q. Didn't you have this book with you and exhibit it to them when you talked the case over with them before you came on to the stand at all? A. No, sir.

Q. What? A. No, sir. I didn't expect to have to show those figures or bring them into the case, and I was not asked to Friday. I was asked if I could give the difference, and I told you no, I hadn't it.

Q. Now, it is true, Mr. Davis, that all through your cross-examination it was almost impossible for you to find anything in your schedule without turning to this book, was it not? A. Oh, I had another memorandum.

Q. What other memorandum? A. I think the judge has it.

The CHAIRMAN. This one, Mr. Brooks.

Q. I am talking about that schedule. When you would be asked in cross-examination to find certain items of your valua-

tion, you would invariably turn to this book before you looked at the schedule, didn't you? A. Not always, not always; sometimes I could find it easier there than I could in the schedule.

Q. Could you not find your items much easier there when you talked with your counsel? A. Oh, no.

Q. Before you went onto the stand? A. Oh, no.

Q. Oh, no? All right. Did you make all the figures in these books (indicating), and are these books in your writing? A. From my order, sir.

Q. I should like an answer. A. No, sir; I did not.

Q. It is a simple question, and I ought to get an answer. A. I didn't make all of them.

Q. Did you make any of them? A. Well, I can tell you if I made any of them by looking —

Q. What? A. I can tell by looking at the book.

Q. Well, I will ask you if substantially all of them were not made by somebody else? A. Yes, sir.

Q. By whom? A. Well, the man that I have to work for me.

Q. What is his name? A. His name is Deery.

Q. He made these various entries in the book? A. No, sir; he made the entries in my book, from my orders.

Mr. GREEN. The entries.

Q. He made them? These red figures, did he make these? A. From my orders.

Q. I don't care whether he made them from your orders or not. A. They ought to come from somebody, I should think.

Q. Well, he made them. I want to show you this book for a moment: this is another one, entitled "New Work, Hol-yoke." When were those pencil memoranda put on that first page? A. I could not say, sir.

Q. Well, about when? Since Friday? A. I could not tell you, sir.

Q. Were they put there since Friday? A. I could not tell you whether they were or not.

Mr. COTTER. What was that answer? I could not hear it.

Mr. BROOKS. He said he could not tell. Now I ask him if they were not put there since Friday.

The WITNESS. I cannot say, sir.

Q. Were they there when you had this book open before your own eyes and in this presence on Friday?

Mr. GREEN. He has answered that question two or three times.

Mr. BROOKS. I am asking it in another form.

A. I am not sure that it was there; I don't think it was there. It might have been. That was merely figured to get up —

Q. Who put these pencil memoranda on the first page of that book? A. I could not say, sir.

Q. Well, who do you think? A. I think I might have.

Q. Look at it and see if that is in your handwriting. (Book shown to witness again.) A. Well, these don't look exactly like my figures.

Q. It is not your figures, and it is not your handwriting, is it? A. I might have —

Q. Excuse me a moment; was it? A. I should not think it was, quite.

Q. You don't know who put those in? You don't know who made the pencil memoranda on the first page of this book called "New Work," do you? A. I don't remember who did put it in; I don't know, sir, whether it was mine, or —

Q. You say you don't remember.

Mr. GOULDING. Didn't he testify to an average depth of four feet and an average width of three feet?

Mr. BROOKS. Yes.

Q. You say that your new work has its foundations at an average depth of four feet, with an average width of three feet?

A. That is what I generally calculate.

Q. These pencil memoranda show the thickness to be two feet, don't they?

Mr. GREEN. For what building? I haven't the book.

Mr. BROOKS. For the new work.

Mr. GREEN. I know, but it is some one building that you refer to, isn't it?

Mr. BROOKS. The first page; it is the first page.

Mr. GREEN. I would like to see it, if your Honors please. It is the retort-house building.

Mr. BROOKS. You need not incorporate that in any part of my question.

Mr. GREEN. I think we have a right to know what it is, what building they are inquiring about.

Mr. BROOKS. I am asking him about page 1. (To the stenographer :) Will you read the question ?

(The question was read.)

A. It seems to.

Q. It shows it two feet, don't it? A. It does show it two feet.

Q. Well, now, if it is only two feet thick, you would want to "roost" your prices higher? A. Those aren't my figures there; I don't know why they were put on that way.

Q. You don't know how they happened to get on? A. No, sir.

Q. Do you think anybody surreptitiously stuck that on there? A. Well —

Q. What? A. In making a figure there they might have used two feet instead of three.

Q. Now, do you say that you didn't make your estimate for your new work according to those figures in the pencil memoranda on the first page of that book? A. I could not tell you, sir.

Q. Very well; we will let it go, then. Of course, then, if you did, you have got the cost too low, haven't you? A. I didn't think at the time that I made up those figures that I got the cost too low.

Q. If you made it in accordance with that pencil memoranda you didn't make it in accordance with the  $3\frac{1}{2}$  and 4 that you have already testified?

Mr. GOULDING. 3 and 4.

A. I made that —

Q. That is true, is it not, Mr. Davis? A. Well, wait until I get through —

Q. No, just answer that. A. I made that to get at the value of what I would do that work for — which I was willing to contract for.

Q. I don't care about that. You have given an estimate



that you say was based upon certain figures, 3 by 4, or  $3\frac{1}{2}$  by 4. If you made it up on the basis of the pencil memoranda you have got your estimate altogether too small for the foundations, haven't you? A. My pencil memorandum that I put on there—

Q. Answer my question.

The CHAIRMAN. That is perfectly simple, Mr. Davis. He asks you as to the method of calculation. Anybody can answer such a question as that.

Mr. BROOKS. I want to get it in the record.

A. In my original figures I might not have called that 4 by 3, but I think I did. I could not find my original memoranda, and I stated that would be about what I called it.

Q. Well, I will leave it there, then. Now, when you say you put in a new holder at Marblehead, you put an extra section on, didn't you, on the old holder? A. I will tell you what I did do.

Q. You can tell me that. A. I didn't put on another section; I rebuilt the old holder.

Q. Did you enlarge the old holder? A. No, sir; I did not.

Q. You mean to say that you took the old holder down and built new, do you? A. Took the old holder out and built a new one in its place, the same size and the same capacity.

Q. That is, you replaced the old by a new one? A. Yes, sir.

Q. You say, do you, now, that the Lowe process for water gas does not cost any more than the Kendall? A. In my estimate—

Q. I don't care about your estimate; I am asking you a simple question. A. Well, ask it again.

Q. It don't seem as if I ought to be compelled to ask a simple question again and again.

Mr. COTTER. You ought to answer the question, Mr. Davis.

A. I would like to know what the question is.

Mr. COTTER. Let the stenographer read it.

(The question, "You say, do you, now, that the Lowe process for water gas does not cost any more than the Kendall," was read by the stenographer.)

Mr. COTTER. That ought to be answered yes or no.

A. No, sir; I would put in —

Q. What does the Lowe process cost?

Mr. GOULDING. He answered that rather ambiguously.

A. I could not tell you exactly now. I found out at the time.

Q. What does the Kendall process cost? A. I cannot tell you now.

Q. You cannot tell me approximately the figures of either cost? A. No, sir.

Q. What? A. No, sir.

Q. And you cannot tell me approximately the figures of the cost of any of the mechanisms as of January, 1898? A. I can by my book, sir.

Q. Well, I am not asking you that. Can you remember; do you know now? A. I don't remember all of those figures; I have not tried to remember them.

Mr. GREEN. If he has got a book here that has the figures in it, I think he ought to be allowed to use it.

Mr. COTTER. Yes, if he can refresh his recollection from anything he has with him.

Mr. BROOKS. I asked for his memory; I didn't ask for anything else.

Mr. GREEN. I think that a witness asked that question is ordinarily allowed to use any memoranda that he has.

Mr. GOULDING. I think he has answered the question, that he can from the books.

Q. Will you turn to your schedule on page 53, the new water plant for your ideal works, — and here is a question, may it please your Honors, that I think I forgot that I would like to ask him.

Mr. COTTER. If he has forgotten it, you don't object to it, Mr. Green?

Mr. GREEN. No, sir.

A. Page 53.

Q. Mr. Davis, having turned to page 53 of your new water plant for your ideal gas plant, I want to ask you what the sizes of the generator and the carburetter are? A. It is a part of the water plant. That includes —

Q. I assumed they were a part of the water plant.

Mr. GREEN. Let him go ahead.

The WITNESS. That includes the whole water plant, as I have estimated it here.

Q. I have asked you, in the first place, what was the size of the generator you have got there? A. About half a million, five or six hundred thousand.

Q. I mean in dimensions; what are the dimensions of it? A. I have not got the dimensions here.

Q. Tell me what they are? A. I could not tell you, sir.

Q. Have you got them anywhere? A. No, sir.

Q. What are the dimensions of your carburetter? A. I could not tell you, sir.

Q. For your new water plant? A. Considered to be half a million, five or six hundred thousand.

Q. I asked you what the dimensions are? A. I could not give them, sir.

Q. And you cannot approximate them? A. No, sir.

Q. You cannot approximate the dimensions at all? A. No, sir; I had the dimensions, and got the —

Q. I don't ask you any more. I understand you to say that you always include your back-filling in your foundation? A. Yes, sir; I have in this case.

Q. I didn't ask you that.

Mr. COTTER. Do you always, is the question. There is no need of limiting it to this case. Do you always?

The WITNESS. I do as a rule, yes, sir.

Q. Can you tell me of a single instance where you estimated your back-filling with your foundations excepting this? A. Well, in making up figures for different jobs I do it very often — always do it.

Q. Can you name one instance, because we are anxious to have that name. A. I don't know that I can name any particular place.

Q. What? A. I don't think I can name any particular place that I have put it in, but I am making those figures all the time, every little while.

Q. Now, there is one other thing. My friend has asked

you with reference to excavation. I want to ask you, in all these excavations that appear in your schedule of valuation for the gas plant did you allow anything for slope? A. No, sir; not direct.

Mr. COTTER. That "not direct" might be stricken out.

Mr. BROOKS. I would like to have him answer.

Mr. COTTER. (To the witness.) You said "No"?

The WITNESS. I should like to explain that here I did not.

Q. I ask you now if you made any allowance for slope in any of the excavations that appear upon your schedule of valuation for this gas plant? A. No, sir, I did not, excepting as a rule we don't have them quite so deep as I have reckoned.

Q. What allowance, if any, did you make for slope? A. I didn't make any, sir; no, sir.

Q. That was my question. What allowance, if any, did you make for shoring or staying the sides of the excavation? A. Nothing, sir.

Mr. BROOKS. I don't think I care to ask anything more, unless Mr. Goulding thinks of something. If he does, why — (Counsel then consulted.)

Mr. BROOKS. We put in these books, may it please your Honors, to which I have directed his attention with reference to the changes.

Mr. GOULDING. I should not suppose they need to be printed.

Mr. BROOKS. No; simply marked.

Mr. COTTER. You had better let the stenographer mark them, so there will be no question about their identity.

(Book of witness relating to new work marked "Exhibit 106, W. L. H." Book relating to old work marked "Exhibit 107, W. L. H.")

Mr. BROOKS. There is one other question that I want to ask, if I am permitted to, though it ought to have come in on the cross-examination. It is with reference to water.

Mr. COTTER. Well, we will hear the question.

Q. What did you allow for water for your new plant? A. I didn't allow any, sir.

Q. Where are you going to get it from? A. Water for what purpose?

Q. Any and all purposes. A. That would come under the running—the running of the works.

Q. Where do you get it from? A. Well, I should get it from the water works if I could get it there; if not, I should dig a well.

Q. Have you estimated how much it would cost? A. No, sir; I have not estimated the cost. That comes in—

Q. Can you tell me anything with reference to the quantities the gas plant would consume? A. In the building?

Q. For all purposes, running. A. Are you talking about running works or building works?

Q. I am talking now about running works. A. I have no estimate of that at all.

Q. I don't ask you that. Can you tell me or approximate to me the quantity of water that would be needed in the maintenance of these works? A. No, sir; not in running.

*Re-direct examination by Mr. GREEN.*

Q. Mr. Davis, the values of land which appear on the books that have been offered just now in evidence—were they your values or were they taken— A. They were taken, and then afterwards were taken off and the land was all called one price.

Q. You were requested to assume that? A. Yes, sir.

Mr. BROOKS. Assume what?

Mr. GREEN. The values of the land.

Mr. BROOKS. You mean the 15 cents, etc.

Mr. GREEN. Yes.

Q. Now I wish you to tell this Commission exactly what you did to those books and how you came to do it. Just take your books and explain in your own way.

Mr. GREEN. I will interrupt my question for a moment. I want to call for one of the petitioner's exhibits—I think it is No. 63. It is a plan of the manufacturing district of the city of Holyoke. There have been blue-print copies,—Brother Goulding has one,—but the original does not seem to be here.

Mr. BROOKS. I have taken no charge of the exhibits. You say 63?

Mr. GREEN. I think it is 63. It is a plan of the manufacturing district. We wanted to use it two or three times and couldn't find it.

Mr. COTTER. Well, we take notice that you call for it. The examination, I presume, may proceed.

Mr. BROOKS. We cannot give it to you because we haven't it, so I am informed.

Mr. GOULDING. I have a copy of that exhibit that Mr. Green refers to.

Mr. GREEN. Can't you furnish us another blue-print copy? It is of some importance.

Mr. COTTER. A blue-print will answer your purpose?

Mr. GREEN. Yes, if I might have one it will do just as well. I would like to have it this afternoon if I could, or at the latest, to-morrow morning. We have some use to make of it.

(The preceding question was read by the stenographer.)

A. In the first place I made some red figures, not expecting they were going into the case at all, and I wasn't very particular about them. I wasn't very particular about it. When the case came up Friday and I was asked for the difference, I didn't want to rely upon my figures that I had partially made two years ago — a year and a half ago. Therefore I went over and looked the whole thing over, and made deductions on whatever part of each kind that I wanted to, or felt that it should be. Then I put the figures onto this book for my own convenience, before making the memorandum which you have before you.

Q. That is, by "memorandum" you mean this schedule which was offered? A. Yes, sir. I didn't give my former —

Mr. COTTER. You understand that was the schedule that was excluded?

Mr. GREEN. Yes, sir.

The WITNESS. My former red figures were not put in; and on the question Friday, I didn't consider that I had the difference between the new and the old then, for I hadn't made

them up carefully, and I expected to be called upon this morning or today for them, as I told them I would, and since Friday I have made them up, and what changes were necessary on my former red-ink figures I changed.

Q. Now can you tell us, in a general way, what those changes amounted to in dollars and cents? A. It might have varied a thousand dollars in the result, I couldn't tell you which way. \$34,000 to \$35,000 was the difference in both cases. It amounted to about the same thing—a little difference. I don't remember what it was now.

Mr. GREEN. That is all.







